DOCUMENT RESUME

ED 150 913 HE 009 650

AUTHOR	Fetters, William B.
TITLE	National Longitudinal Study. Withdrawal from Institutions of Higher Education. An Appraisal with Longitudinal Data Involving Diverse Institutions.
INSTITUTION	National Center for Education Statistics (DHEW), Washington, D.C.
PUB DATE	77
NOTE	235p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 017-080-01803-9, price not available)
EDRS PRICE	MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS	Bibliographies; *College Students; *Dropout Characteristics; *Dropout Rate; Dropout Research; *Dropouts; Higher Education; Longitudinal Studies; Persistence; School Holding Power; Statistical Analysis; Statistical Studies; Student College Relationship; *Student Problems; Tables (Data)
IDENTIFIERS	*National Longitudinal Study High School Class 1972

ABSTRACT

Using data from the National Longitudinal Study of the High School Class of 1972, the National Center for Education Statistics undertook a study of dropouts in higher education. Specifically, the study was designed to discover: (1) to what extent students withdraw from institutions of higher education before completion, and how these rates might vary according to sex, race, and socioeconomic status; (2) the reasons for withdawal, and any patterns among them; (3) the variables directly or indirectly associated with withdrawal; and (4) what happens to those who withdraw. Data tables and analyses are included, as is a list of references. (MSE)

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National Center for Education Statistics
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National Longitudinal Study

Withdrawal From Institutions of Higher Education

An Appraisal With Longitudinal Data Involving Diverse Institutions

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This report was prepared for the National Center for Education Statistics by Research Triangle Institute under contract number OEC-0-73-6666 with the Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment. This report, therefore, does not necessarily represent positions or policies of the Department, and no official endorsement should be inferred.

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1977

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FOREWORD

The National Longitudinal Study of the High School Class of 1972, a survey initiated by and conducted for the National Center for Education Statistics (NCES), began in spring 1972 with over 1,000 in-school group administrations of survey forms to a sample of approximately 18,000 seniors. In the followup surveys, the sample included almost 5,000 additional students from sample schools that were unable to participate in the base-year survey.

The data collected from the in-school and two followup surveys have been merged and processed. Results are being presented in a series of reports, designed to highlight selected findings in educational, career, and occupational development. This report contains information about those students who continued their education in institutions of higher education for a period of time and then withdrew. It includes the extent of withdrawal, the students' reasons for withdrawal, variables associated with withdrawal, and the activities and educational plans of those students after withdrawing.

Continuing followup requests for data from these individuals are planned through 1979 and perhaps beyond. This series of repeated observations will permit the examination of the relationships between schooling, work, and other experiences and subsequent career choices as well as educational and labor force participation of each of the selected individuals. Such information and the resultant analyses are important to those engaged in formulating legislative proposals and educational policy.

The report was prepared as a project of NCES's former Division of Statistical Information and Studies, headed by Marjorie O. Chandler, and its Statistical Analysis Branch, with William B. Fetters as Project Officer. In Research Triangle Institute, the study was prepared by Samuel S. Peng, Elizabeth A. Ashburn, and George H. Dunteman.

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I. INTRODUCTION

A. Background of the Study

College dropout has been a subject of extensive research in higher education. Although leaving college before completion can be a positive step for some students and their parents (see Sanford, 1956; Summerskill, 1962), it is generally considered a painful process for many students because of possible vocational or personal setbacks that may result from impeded career development and the futile expenditure of time and effort. It also presents problems to school administrators because of misallocation of limited educational resources. Consequently, information about who drops out of college and why, and how individual and institutional characteristics interact in the dropout process, is of value to students, parents, counselors, and educational decisionmakers. For example, this information may lead to more effective counseling in assisting students to select a college and field of study in which they are likely to complete their education. The information may also assist administrators in formulating recruitment and admission policies and in allocating financial aid to enhance the probability that students will complete their studies. This is particularly important given the decline in birth rates in the last 15 years (U.S. Bureau of the Census, 1964 and 1973). The consequent decline in the numbers of college entrants may cause the financial survival of many colleges to depend in part on reducing the number of withdrawals. The information may also suggest aspects in the educational system or in instructional procedures which need modification so that the talents of individuals can be more fully developed and utilized. In more general terms, dropout information is particularly valuable in the face of concern over the equality of educational opportunity, the overall educational quality in this nation, and the optimal use of the nation's talent and financial resources.

Several recent reviewers have commented on the complexity and profusion of dropout studies (e.g., Spady, 1970; Tinto, 1975). The reviewers all point out that, despite the very extensive literature on dropouts from college (see references), much remains unknown about the nature of the

dropout process; the dropout phenomenon is still far from being clearly understood.

Much of the inadequacy of past research can be attributed to the following shortcomings: (1) ambiguous definition of dropouts; (2) conceptualization of dropout process; and (3) the lack of a representative sample of institutions for making national estimates of the parameters involved in the dropout process.

1. Ambiguous Definition of Dropouts

The most common problem with studies of dropouts is the inadequate attention given to the definition of a dropout. Many studies fail to distinguish academic suspension (i.e., dropout resulting from academic failure) from voluntary withdrawal, or permanent dropouts from persons whose leaving may be temporary (i.e., stopouts) or may lead to a transfer to other institutions of higher education (Tinto, 1975). The failure to make such distinctions in past research has resulted in contradictory findings and misleading implications, including the mis-prediction of dropping out. Failure to separate permanent dropouts from stopouts or transfers has resulted in substantial overestimation of the extent of withdrawal, as well as in an inability to identify populations requiring specific forms of assistance. Spady (1970) had a comprehensive discussion of this definitional problem of dropouts.

2. Inadequate Conceptualization of Dropout Process

As Tinto (1975) observed, research on college dropouts has been marked by inadequate conceptualization of the withdrawal process. This is particularly noticeable in the lack of attention given to the development of longitudinal models that would lead to an understanding of the interaction processes which bring, over time, different individuals within the institution to varying levels of persistence or withdrawal behavior. With a few exceptions (e.g., Spady 1970, 1971; Rootman, 1972), most studies of dropouts have been limited to descriptive statements of how various individual and/or institutional characteristics relate to dropping out. Relevant variables were not measured adequately through time.

3. The Lack of Representative Institutions

Another problem concerning dropout studies is the lack of adequate representation of a variety of institutions for national generalizations of the findings. Most studies are limited to a single institution or institutions within a localized region, and thus no nationwide implications can be drawn. There are a few published national studies (e.g., Iffert, 1957; Trent and Medsker, 1968); however, they suffer from such defects as incomplete sampling of institutions and an inadequate data base (Astin, 1972).

The implication seems clear: well-defined definitions of dropout and longitudinal data involving representative institutions are needed to provide a deeper understanding of the dropout process. The longitudinal data provided by the National Longitudinal Study (NLS) meet these needs, since they involve a representative sample of high school seniors of 1972 who attended a broad range of American colleges and universities (over 1,800).

B. Purpose of the Study

The comprehensiveness of the NLS data will allow the analysis to address many questions regarding dropouts, including questions that have been examined elsewhere but remain unanswered because of methodological or data base problems. Specifically, this study was designed to seek answers to the following questions:

(1) To what extent do students withdraw from institutions of higher education before completion? Do the withdrawal rates vary among subpopulations defined by such variables as sex, race, and socioeconomic status?

(2) What are the student's reasons for withdrawal? Do different types of withdrawal groups report different reasons?

(3) What variables are directly or indirectly associated with withdrawal? How do these variables operate in the withdrawal process? For example, is withdrawing from college a mechanism to cope with personal-institutional incongruency?

(4) What happens to those individuals who withdraw? What did they do after withdrawing? Do they plan to return to college? Is withdrawing from college associated with psychological changes in self-esteem and locus of control?

C. An Overview of the Remainder of the Report

The remainder of this report is organized into seven chapters. Chapter II provides a description of the NLS sample, instruments, data collection procedures, and the weighting process used in analyzing the data. Chapter III presents the definition and a description of how dropouts were classified for this study. Estimates of withdrawal behavior from American institutions of higher education are presented in Chapter IV. Separate estimates are provided for four-year and two-year institutions. For each of these categories, percentage estimates of student withdrawal during the freshman or sophomore year and for academic or nonacademic reasons are presented. The extent of withdrawal is further examined by institutional characteristics such as control, size, and selectivity levels, and by subpopulations defined by race, sex, and socioeconomic status. In Chapter V, students' self-reported reasons for withdrawal are discussed. The withdrawal process is extensively investigated by analytical models in Chapter VI. This includes a conceptualization of the withdrawal process and the specification of analysis techniques (i.e., log-linear models to test specific hypotheses as well as the presentation of findings and their interpretations). Many specific questions regarding the relationship of withdrawal to variables such as educational aspiration, family background, and ability are addressed in this chapter. Chapter VII is a description of what happens to withdrawals regarding employment status, career and education plans, and psychological changes. Chapter VIII, the last chapter, discusses the findings and their implications. Information relevant to the study but excluded from the main text is presented in six appendices.

II. THE DATA BASE

The NLS base-year, and the first and second follow-up data were used to answer the questions posed in the introduction. The NLS data base is exceptionally rich, and its longitudinal design based upon a national probability sample permits analyses that provide valuable information concerning the psychological, educational, and career development of people in their early adulthood. The NLS study was designed to discover what happens to young people after they leave high school and to relate this information to their prior educational experiences and personal and biographical characteristics. Educational and work experiences as well as plans, aspirations, attitudes, and personal background characteristics were measured over three points in time on a sample of over 20,000 high school seniors of the class of 1972. The base-year data were collected in the spring of 1972, the first follow-up data were collected in the fall and winter of 1973-74, and the second follow-up data were collected in the fall and winter of 1974-75.

A. Sample Design

The sample design is a stratified, two-stage probability sample of all schools, public and private, in the 50 states and the District of Columbia, which contained twelfth graders during the 1971-72 school year. The first-stage school sampling frame was constructed from computerized school files maintained by the Office of Education and the National Catholic Education Association. It was divided into 600 final strata based upon the following variables:

- Type of control (public or nonpublic)
- Geographic region (Northeast, North Central, South, and West)
- Grade 12 enrollment (less than 300, 300 to 599, and 600 or more)
- Proximity to institutions of higher learning (3 categories)
- Percent minority group enrollment (8 categories, public schools only)
- Income level of the community (11 categories, public schools; 8 categories, Catholic schools)
- Degree of urbanization (10 categories)

The number of classes defined by a cross-tabulation of the above stratification variables is far greater than the number of classes that could, in fact, be utilized in the stratification. Consequently, it was necessary to consolidate, or ignore in some instances, some of the stratification criteria. The final strata involved priority considerations dictated by the higher ranking of the stratification variables, and judgment in consolidating the various classes to produce strata of the desired sizes.

Schools in the smallest grade 12 enrollment strata (fewer than 300 seniors) were selected (without replacement) with probabilities proportional to their estimated number of senior students. Schools in the remaining enrollment strata were selected with equal probabilities (again without replacement). The number of disadvantaged students was increased by sampling schools in low-income areas and schools with high proportions of minority group enrollments at twice the rate used for the remaining schools. Income for any area was based upon either an adjusted 1960 Census median income of the county containing the school or the average adjusted gross income determined from the 1966 tax returns with the same five-digit Zip Code as that for the school. The minority group enrollments for individual schools were determined from either the records of the Office of Civil Rights or the 1970 Census data by counties.

Within each final stratum, four schools were selected and then two of the four were randomly designated as the primary selections. The other two schools were retained as backup or substitutes and used in the sample only if one or both of the primary schools did not cooperate.

The second stage of the sampling procedure consisted of first drawing a simple random sample of 18 students per school and then selecting five additional students as replacements for possible nonparticipants among the 18. In both cases, the students within a school were sampled with equal probabilities without replacement.

The study excluded schools for physically or mentally handicapped students, schools for legally confined students, and schools (such as area vocational schools) where students were also enrolled in other institutions included in the sampling frame. Also excluded were special

categories of students, such as early graduates and adult education students.

B. School Representation

The sample design involved 1,200 primary sample schools and 21,600 students (18 per school). Of the 1,200 primary sample schools, 948 participated in the base-year survey (spring 1972), 21 had no senior students enrolled, and 231 either refused to participate or could not, due to receiving the request too late in the school year. There were 96 schools from the backup sample that also participated as well as 26 other "extra" base-year schools. The latter were termed "extra" if, in the end, both primary sample schools from the stratum participated.

In the summer of 1973, the National Center for Education Statistics (NCES) made further attempts to secure the participation of the 230 primary sample schools which had not participated in the base-year survey, and to replace the 21 schools that had no seniors. This "resurvey" activity, initiated prior to the first follow-up survey, involved securing school cooperation, choosing random samples of up to 18 former 1972 seniors per school, and then securing the last known address of those selected. This activity was successful for 204 of the 230 primary sample schools.

A sample of 200 school districts was also solicited during the base year to identify public schools not in the original sampling frame. Forty-five such schools were identified, 23 were randomly selected as an "augmentation" sample, and 16 of these schools participated in the first follow-up survey.

In summary, data were collected from students in 1,070 participating schools in the base-year survey, 1,300 schools in the first follow-up survey, and 1,318 in the second follow-up survey. The total number of participating schools, by survey, is summarized in Table II-1.

Table II-1

TOTAL NUMBER OF PARTICIPATING SCHOOLS, BY SURVEY

Item	Base-Year Survey	First Follow-Up Survey	Second Follow-Up Survey	Final NLS Sample
Primary Sample	948	1,153	1,153	1,153
Backup Sample:				
"Extra" in Base-Year	26	--	18	18
Other	96	131	131	131
Augmentation Sample	--	16	16	16
Total	1,070	1,300	1,318	1,318

C. Instruments

1. Base-Year Instruments

Each student in the sample was asked to complete a Student Questionnaire which dealt with factors related to the student's personal-family background, educational and work experiences, plans, aspirations, attitudes, and opinions.

In addition to the Student Questionnaire, each student took a 69-minute test, composed of six subtests measuring both verbal and nonverbal ability. Vocabulary, Picture Number (measure of associative memory), Reading, Letter Groups (measure of inductive reasoning), Mathematics, and Mosaic Comparisons (measure of perceptual speed and accuracy).

Base-year data were also obtained from a student's School Record Information Form (SRIF). Items on the SRIF pertained to the student's high school curriculum, grade-point average, credit hours in major courses, and, if applicable, his or her position in ability groupings, remedial-instruction record, involvement in certain federally supported programs, and scores on standardized tests.

Finally, information from a School Questionnaire and one or two Counselor Questionnaires were also obtained for each participating high school. Counselor Questionnaires were not obtained from schools involved in the "resurvey" activity.

2. First Follow-Up Instruments

Two forms (A and B) of a First Follow-Up Questionnaire were developed and designed for self-administration by the student. Form A was mailed to each sample member who responded to the base-year Student Questionnaire. Seniors from the high school class of 1972 who were unable to participate in the base-year survey (usually because of time and scheduling considerations) were mailed Form B of the questionnaire. Questions 1 through 85 were identical on both questionnaire forms. These questions dealt with information concerning the respondent's activity state (e.g., education, work, etc.) in October 1972 and October 1973; his or her socioeconomic status; work and educational experiences

since leaving high school; and future educational and career plans, aspirations, and expectations. Form B of the First Follow-Up Questionnaire contained an additional 14 questions to take the place of missing base-year information.

Most of the questions on the base-year Student Questionnaire and First Follow-Up Questionnaire were of the forced-choice type. Open-ended, or free-response, questions were limited to questions involving dates, income, number of hours or weeks worked, and the like.

3. Second Follow-Up Instrument

The nature and format of the Second Follow-Up Questionnaire were much the same as those of the previous questionnaires. Questions were constructed to obtain information concerning the individual's educational and work experience, plans, aspirations, attitudes and opinions, and family status. Many of the questions were the same as the ones used in the previous surveys to maintain the longitudinal nature of the study, while some questions were added to obtain information unique at the time of the survey. The new questions were all field tested before they were included in the instrument.

D. Procedures

1. Base-Year Data Collection

The bulk of the student data was collected in April, May, and June 1972 through group administration in each school by local school-based survey administrators. Survey administrators also completed School Record Information Forms (SRIFs) for each participating student and administered the School and Counselor Questionnaires.

2. First Follow-Up Data Collection

The first step in data collection involved an extensive tracing operation to update name and address files. The major mailout of about 23,000 First Follow-Up Questionnaires to the last known addresses of potential respondents was made on October 23-24, 1973. This mailout was followed by a planned sequence of reminder postcards, additional questionnaire mailings, and reminder mailgrams to nonrespondents. Active mail return efforts continued through December 1973; and by early February 1974, the questionnaire return rate by mail was 60.9 percent.

The names and addresses of those sample members who failed to mail back their questionnaires were then turned over to the Bureau of the Census for personal interview in accordance with a Bureau arrangement with the U.S. Office of Education. This personal interview phase of first follow-up data collection continued until April 7, 1974, at which time the overall response was 21,350, approximately 92.7 percent of the potential respondents. Of the 16,683 seniors who completed a Student Questionnaire, 15,635 took part in the first follow-up survey--a sample retention rate of 93.7 percent.

3. Second Follow-Up Data Collection

The tracing operations used in the first follow-up survey were applied to the second follow-up. On October 7, 1974, questionnaires were mailed to the last known addresses of the 22,364 sample members whose addresses appeared sufficient and correct and who had not been removed from active status by prior refusal, death, or other reason. Active mail return efforts continued through December 1974, and by March 1975, 15,058 persons had responded, approximately 68.3 percent of the initial mailouts. The names and addresses of those sample members who failed to mail back their questionnaires by January 1975 were turned over to 12 RTI off-site field interviewers for personal interviews. The interviews of 5,814 individuals increased the overall response to 20,872, approximately 93.3 percent of the initial mailouts. Of the 21,350 persons who completed a First Follow-Up Questionnaire, 20,194 (94.6 percent) also participated in the second follow-up survey.

E. Data Processing

The data were manually edited and then keyed to tape after which they were extensively machine edited. The editing process was extremely complex and comprehensive. The editing rules reflected the complexity of the instruments in terms of, for example, skip patterns within the questionnaire. In addition, hard copy resolution was conducted whenever possible in order to resolve problems in the data file. The underlying logic of the whole editing process was to create a data file that was as faithful to the hard copy as possible.

F. Weighting and Significance Testing

The NLS sample is highly stratified, multi-staged, and clustered. Therefore, each case must be weighted by the inverse of its probability of selection to obtain unbiased estimates of population parameters. Thus, the percentages, means, standard deviations, and regression weights presented in this report are all based upon properly weighted estimates. The standard errors of sample statistics from this complex design are larger than those from a simple random sample of the same size, and should be adjusted accordingly. For example, standard errors of percentages for this complex probability sample can be approximated as a function of the estimated percentage, the sample size, and the estimated design effect which is the ratio of the standard error of the statistic for the sample to the standard error of the statistic for a simple random sample of the same size. Thus, the approximate standard error of percentages in this paper can be obtained by the following formula:

$$S.E.\ (P) = \sqrt{\frac{P(1-P)}{n}} \cdot \sqrt{D}$$

where P is the percentage, D is the design effect, and n is the actual sample size (see Kish, 1957; Kish & Frankel, 1970). The average design effect is estimated to be approximately 1.35; thus, the usual standard errors should be multiplied by $\sqrt{1.35}$, which is about 1.16.

To contrast two subpopulation percentages, $d = P_1 - P_2$, the standard error of the differences may be approximated by taking the square root of the sum of the squares of the standard errors for P_1 and P_2. The approximation will be conservative because of the exclusion of the covariance term for P_1 and P_2 in the estimation formula. In comparing two subclasses of students, the covariance term tends to be positive because of the positive correlation caused by the sample clusters of 18 students per school. The effect of this positive correlation is to reduce the standard error of the difference.

The significance tests of percentages and associated probabilities employed in this report are based on the normal approximation to the binomial distribution. It should be noted that the approximation may

not be good for small sample sizes or extreme percentages. Throughout this report, the word "significant" means statistically significant at the .01 probability level. A one-tailed test (Z = 2.33) is used where there is a prior hypothesis based on past research regarding the direction of the difference, and a two-tailed test (Z = 2.58) is used where there is not a prior hypothesis.

III. DEFINITION AND CLASSIFICATION OF A DROPOUT

Failure to distinguish among different types of college leaving behavior leads to inappropriate interpretations and erroneous implications of the data on dropouts (see Spady, 1970). To avoid these interpretive problems, the first task of this study was to define a dropout. The task is complex because college leaving behavior is diverse and the longitudinal nature of the data allows for many patterns of college-going behavior.

The first step in classifying dropouts involved pooling information from various sources in the data files to determine the sample members' college-going status at three different points in time: October of 1972, 1973, and 1974. The process was simple for the derivation of educational status in October 1972; however, for the next two time points, assessment of college-going status was complicated by such factors as transferring, re-entry, and reasons for withdrawal.

The college-going status information at the three points in time was then used to form a tree diagram (Figure III-1). Using this diagram, many dropout categories were identified. For example, some students were classified as freshman dropouts because their October 1973 status was noncollege (i.e., those students who left college at the end of or during the freshman year); others as sophomore dropouts due to their October 1974 status. Within either of those "time" categories, some students dropped out for academic reasons, while others dropped out for nonacademic reasons. The major dropout groups which will be discussed in this report are as follows:

Four-Year College

A. Freshman Withdrawal
   1. Academic withdrawal
   2. Nonacademic withdrawal

B. Sophomore Withdrawal
   1. Academic withdrawal
   2. Nonacademic withdrawal

Two-Year College

A. Freshman Withdrawal
   1. Academic withdrawal
   2. Nonacademic withdrawal
B. Sophomore Withdrawal
   1. Academic withdrawal
   2. Nonacademic withdrawal

Dropouts have been grouped by institutional type (four-year and two-year) since previous research shows that different types of students attend these institutions. The two-year colleges tend to attract students of lower ability (American Council on Education, 1970) and lower socio-economic status (U.S. Department of Commerce, 1972). In addition, previous studies have found that students who enter a two-year college are much more likely to withdraw than are students who enter four-year colleges or universities. For example, the National Commission on the Financing of Postsecondary Education (1973) estimated that fewer than two-thirds of the students who entered a two-year college in the fall of 1967 returned for their second year, and after three years only 40 percent had received a degree or were still enrolled in higher education. In contrast, slightly more than three-quarters of the students who entered four-year colleges or universities in the fall of 1967 returned for their second year and, four years later, about 60 percent had either received a degree or were still enrolled. Also, the institutional withdrawal rate itself may be a factor in dropping out, since the atmosphere is different in colleges where the majority will receive a degree as contrasted to colleges in which only a small percentage will graduate (Summerskill, 1962). Consequently, student attrition rates in four-year and two-year colleges were examined separately.

Dropouts were separated by year of withdrawal (freshman or sophomore) since one might expect differences between them on such variables as ability, locus of control, reasons for withdrawal, and other variables.

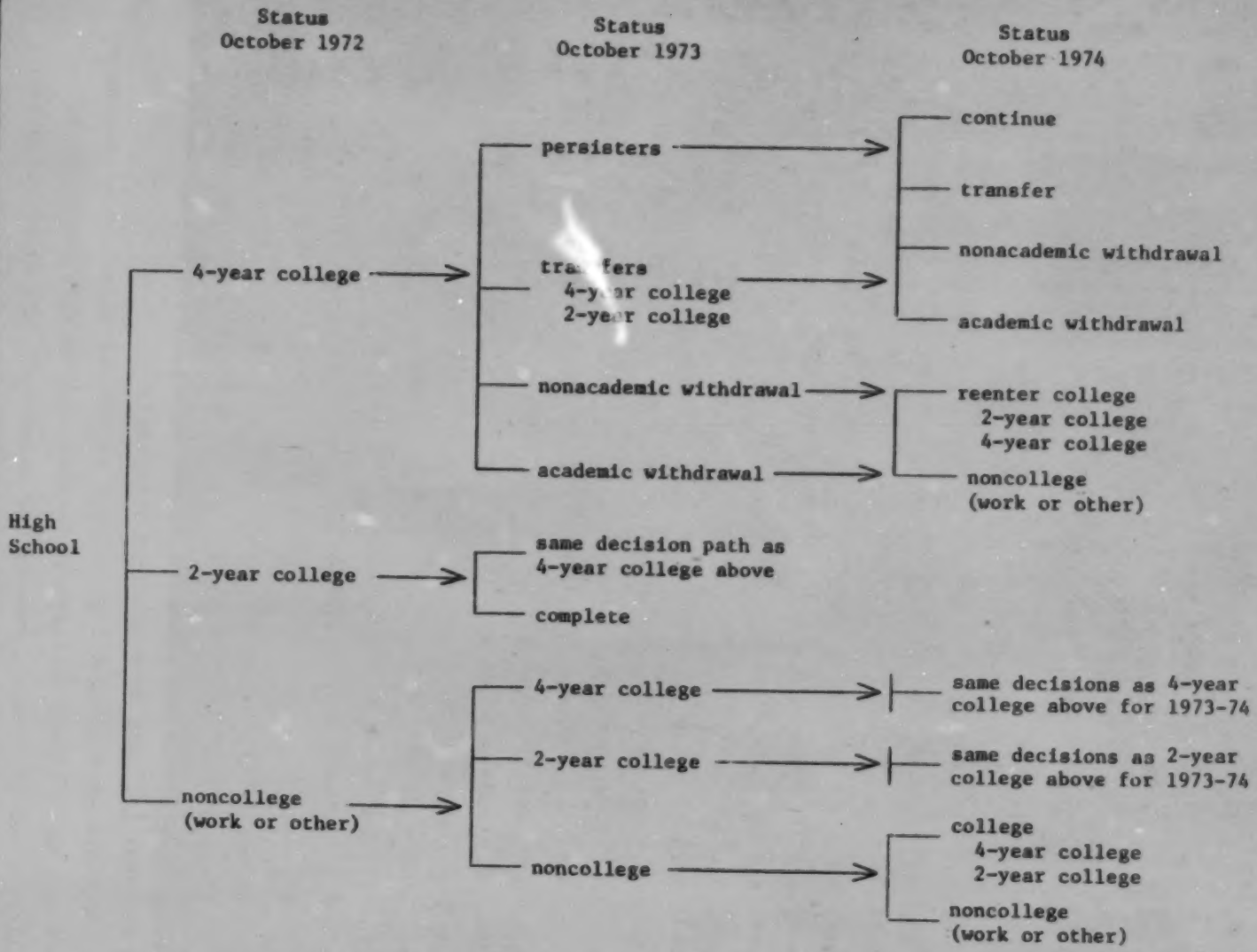

Figure III-1. College Entry and Withdrawal Paths

A freshman withdrawal was defined as a student who was in school in October 1972 but was not in school in October 1973. A sophomore withdrawal was defined as a student who was in school in both October 1972 and 1973 but was not in school in October 1974. The withdrawal process may be different between the two groups. Such a categorization will also allow for estimating separate withdrawal rates for freshmen and sophomores.

The distinction between nonacademic and academic withdrawal from college has been made in the following way. Nonacademic withdrawals are those students who left college without completion but who had a self-reported grade-point average of C or above (following the classification procedures of Johannson and Rossman, 1973). In addition, they did not indicate on the questionnaire that they were failing any courses, or that any course was too difficult.[1/]

The academic withdrawals are those students whose self-reported college grade-point average was below C, or whose reasons for withdrawing was either "courses were too hard" or "failing or not doing as well as I wanted."

From one viewpoint, students who transferred from a four-year college to a two-year college were actually lost to the four-year college enrollment. Likewise, a two-year college student who transferred to a four-year college could also be considered a loss (dropout) to the two-year college. However, if the postsecondary educational system as a whole is the concern, which is true in this study, then transfers should not be considered as a loss. Transfers are examined in a separate

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1/ This group is usually termed "voluntary withdrawals" in the research literature. This label is considered to have inappropriate connotations since, in many cases, withdrawal may occur for such reasons as financial or family problems, and these reasons may not be considered voluntary by the student. Because of this, nonacademic withdrawal is a more accurate and comprehensive label. In the same manner, the usual term of "academic dismissals," which connotes administrative suspension for academic reasons, has been changed to "academic withdrawals," which allows the inclusion of the student's withdrawal from college on the basis of poor grades or difficulties with course work.

study of the NLS data. Nevertheless, proportions of students who transferred from a four-year college to a two-year college, or vice versa, by the end of or after their freshman or sophomore year are included in Appendices A and B.

IV. EXTENT OF WITHDRAWAL FROM AMERICAN INSTITUTIONS OF HIGHER EDUCATION

One of the most frequently asked questions about college is what proportion of students leave college without completion. Previous studies indicated that national college withdrawal rates held at approximately 50 percent through the first half of this century (Summerskill, 1962), and the trend has not been markedly changed in recent years (Astin, 1975c). However, most of the studies were limited to specific colleges. Even the few national studies were limited to a nonrespresentative sample of American institutions of higher education. For example, McNeeley's (1939) study involved 25 universities; Iffert's (1958), 149 institutions; and Astin's (1975c), 358 institutions. A national estimate without a representative probability-based sample may be biased. The NLS data are not limited by this type of bias since the NLS is a national probability sample and about one-half of the sample entered over 1,800 institutions of higher education. The representativeness of both the students and the institutions provide a better estimate of college withdrawal rates. In addition, the NLS also provides up-to-date information on withdrawal rates which could have changed in recent years due to the changing value of college education in a tight job market (see Freeman & Hollomon, 1975).

A. Total Withdrawals Over Two Years

The NLS has completed two follow-up surveys of the high school class of 1972 that have covered a time span of two and one-half years since high school graduation. During those years, students entered, withdrew from, or persisted in college at different points in time. Table IV-1 shows that about 44 percent of the high school class of 1972 enrolled in a two- or four-year college in the fall of 1972, and an additional 5 percent first enrolled in the fall of 1973. Of those students (48.59 percent of the 1972 high school class), many failed to continue their education. The total number of withdrawals as counted in the fall of 1974 are presented in Table IV-2. Four-year college withdrawals

were those students who entered a four-year college in October 1972 or 1973 and who were not in college in October 1974. Two-year college withdrawals were those students who entered a two-year college in October 1972 or 1973 and had not received a degree and were not enrolled in college in October 1974.

Of the four-year college students, about 24 percent did not return for study in the fall of 1974 either for academic or nonacademic reasons. In contrast, about 39 percent of those entering two-year institutions withdrew. The very different withdrawal rates between these two categories of colleges support earlier arguments for analyzing these two groups separately (see Chapter III). It could be that different processes underlie the entering as well as withdrawal behavior of four-year college students as contrasted to two-year college students.

The observed withdrawal rate from four-year colleges is interesting. Summerskill (1962), in his review of 35 articles on dropouts, estimated that after four years approximately 50 percent of those entering college had withdrawn. Since most withdrawals occur during the first two years of college, this suggests the possibility that the withdrawal rate has decreased over the past decade.

In both four-year and two-year institutions, the number withdrawing for nonacademic reasons was substantially larger than those withdrawing for academic reasons. The ratio was about three to one for four-year colleges, and about six to one for two-year colleges. This seems to suggest that the selection of students for college entrance on the basis of academic performance and potential was relatively successful; and that greater emphasis should be placed on understanding the nonacademic reasons behind withdrawal behavior.

B. Freshman Withdrawal Rate Versus Sophomore Withdrawal Rate

One interesting question about college dropouts is the relative sizes of the freshman and sophomore attrition rates. This question is

Table IV-1

PERCENTAGE OF THE HIGH SCHOOL CLASS OF 1972
THAT ENTERED COLLEGE BY FALL 1973

(N = 20,194)

Time Point	4-Year College	2-Year College	Total
Fall 1972	29.40	14.56	43.96
Fall 1973	2.23	2.40	4.63
TOTAL	31.63	16.96	48.59

Table IV-2

TOTAL WITHDRAWALS OVER TWO YEARS

	Percentage Withdrawing[1]	Total Sample Enrolled[2]
Four-Year College	23.54	6378
Academic Withdrawals	5.28	
Nonacademic Withdrawals	18.26	
Two-Year College	39.30	3397
Academic Withdrawals	6.00	
Nonacademic Withdrawals	33.30	
TOTAL	29.01	9775

1/ Subtracting this number from 100 will give the percentage of nonwithdrawals (persisters and transfers).

2/ Total sample members enrolled by the fall of 1973.

more relevant for four-year colleges than for two-year colleges, because the second year in two-year colleges is generally the terminal year. Thus, we shall be mostly concerned with withdrawal rates from four-year colleges. The freshman and sophomore withdrawal rates from two-year colleges and the withdrawal rate for late entrants (i.e., those students who initially entered college in the fall of 1973, one year after high school graduation) can be found in Appendix A.

Table IV-3 shows that the overall freshman withdrawal rate was higher than the sophomore withdrawal rate ($p<.01$), based on either freshman enrollment or sophomore enrollment. The difference indicates that the probability of a sophomore continuing college was slightly higher than that for a freshman. The extent of student withdrawal was greater prior to the beginning of the sophomore year than prior to the beginning of the junior year.

More specifically, the non-academic withdrawal rates were not significantly different for freshmen and sophomores (11.89 and 11.21 percent), but the academic withdrawal rate for freshmen was more than twice that for sophomores (4.62 and 2.08 percent), and was significant statistically. Thus, the difference between freshman and sophomore withdrawal rates is attributable almost entirely to withdrawal for academic reasons. More of the less able (or less aspiring) students withdrew in the first year.

C. Extent of Withdrawal by Institutional Characteristics

Studies have shown that student withdrawal rates vary by institutional characteristics. As mentioned previously (see Table IV-2), students from two-year colleges tend to have a higher withdrawal rate (39 percent) than those from four-year colleges (24 percent). Two possible reasons for this difference are that students in these two kinds of institutions are different in ability and socioeconomic background (American Council on Education, 1970; U.S. Department of Commerce, 1972), and the institutional environment is different (Summerskill, 1962).

Table IV-3

FRESHMEN AND SOPHOMORE WITHDRAWAL RATES (IN PERCENT)
FROM FOUR-YEAR COLLEGES

Student Category	Freshman Withdrawal	Sophomore Withdrawal[1]	
		(1)	(2)
Withdrawals[2]	16.51	10.67*	13.29*
Academic	4.62	1.67*	2.08*
Nonacademic	11.89	9.00*	11.21
Persisters	83.49		86.71
TOTAL	100.00		100.00
Sample N	5,958	5,958	4,827

1/ Percentage (1) is based upon the freshman enrollment, and percentage (2) is based upon the sophomore enrollment.

2/ An asterisk (*) denotes that sophomore withdrawal rate is significantly lower than freshman withdrawal rate ($|Z|>2.33$, or $p<.01$).

Institutions may be characterized by type of control (e.g., public versus private). Several studies have shown that there is greater attrition in state-controlled institutions than in private ones (see Summerskill, 1962). The NLS data support this finding. As shown in Table IV-4, based on those individuals who had entered college by the fall of 1973, the withdrawal rate as of the fall of 1974 was significantly higher for public four-year institutions than for private ones. The public-private difference, although of roughly the same magnitude and direction, was not statistically significant at the .01 level for two-year colleges because of the smaller sample sizes involved.

The difference in withdrawal rates between public and private institutions may be partially due to the selection of different kinds of students. Many four-year private institutions are very selective, admitting only very able and/or goal-committed students. The institution itself may also provide a greater variety of subcultures for students to identify with. As Kamens (1971) argued, more prestigious institutions exert greater holding power over students by providing more diverse programs and social activities; a greater variety of opportunities leads students to greater commitment to the institution, which, in turn, results in less withdrawal from the institution.

To further verify these arguments, information about the institution's selectivity level and size was required. This type of information was not available in the NLS data; however, it was obtainable in part from other sources. A preliminary analysis, using Astin's (1971) college selectivity index[1/] with eight levels and college size (Sucher, Van Dusen, & Jacobson, 1974) with five levels, is discussed below for freshmen withdrawals. The sample was reduced, since not all colleges had the supplementary information.

1/ Selectivity index is based upon the average scores of the entering students. There are eight levels of selectivity, 1 being the lowest and 7 being the highest level, and 0 (unknown) indicating no direct estimate of selectivity was available. In general, the "unknowns" tend to be around levels 1 and 2 (Astin, 1971, p. 24).

Table IV-4

TOTAL WITHDRAWALS OVER TWO YEARS:
BY INSTITUTIONAL CONTROL

	Percentage Withdrawing[1/]	
	Public	Private
Four-Year College	28.47	22.31*
	(N=4290)	(N=1695)
Two-Year College	39.75	32.23
	(N=2999)	(N=194)

1/ (a) Subtracting the percentage from 100 will yield the percentage of persisters and transfers for the corresponding group.

(b) An asterisk (*) indicates public four-year institutions had a significantly greater withdrawal rate than four-year private institutions ($|Z|>2.33$, or $p<.01$); the difference in withdrawal rates at two-year institutions was not significant because of a larger standard error.

(c) N's are total sample members enrolled. The discrepancy in enrollment between those listed in this table and Table IV-2 is due to missing information on institutional control.

There were no significant differences in withdrawal among institutions of varying sizes. In Table IV-5 it can be seen that the overall freshman withdrawal rate stayed around 16 percent for four-year colleges and 29 percent for two-year colleges. The ratio of nonacademic to academic withdrawals also remained fairly constant across the size categories within type of college. Thus, size itself is not relevant in explaining withdrawal behavior.

The extent of withdrawal, however, did vary significantly according to the institution's selectivity level. The withdrawal rates from four-year colleges generally decreased as the selectivity level increased (see Table IV-6). The relationship between selectivity level and withdrawal rate held for both academic and nonacademic withdrawals in four-year colleges; the higher the selectivity level, the lower the withdrawal rate.

Since two-year colleges are, in general, less selective than four-year colleges, only the first three levels of selectivity were represented by a large enough number of students for making reasonably reliable estimates. This lack of variation in selectivity for two-year colleges precludes generalizations concerning the association of selectivity with withdrawal from two-year colleges.

D. Extent of Withdrawal by Subgroups Defined by Sex, Race, and Socioeconomic Background

Examining student withdrawal for varying subpopulations is an integral part of assessing the equality of educational opportunity (see Flax, 1971; College Entrance Examination Board, 1974; Christoffel & Rice, 1975); the subpopulations defined by sex, race, and/or socioeconomic background (SES) are the ones most frequently investigated. Although

Table IV-5

FRESHMEN WITHDRAWAL RATES (IN PERCENT) BY TYPE AND SIZE OF INSTITUTIONS

Institutional Size	Four-Year College				Two-Year College			
	Total[1/]	(Acad.	Nonacad.)	N	Total[1/]	(Acad.	Nonacad.)	N
≤ 2,000	17.94	(4.57	13.37)	1204	29.00	(6.00	23.00)	900
2,001 - 5,000	15.96	(3.75	12.21)	1040	29.40	(5.32	24.08)	677
5,001 - 10,000	16.63	(4.26	12.37)	962	30.86	(6.32	24.54)	267
10,001 - 15,000	17.89	(4.90	12.99)	408	26.32	(7.24	19.08)	152
≥ 15,000	14.01	(3.07	10.94)	521	30.52	(5.26	25.26)	95

[1/] Subtracting this number from 100 will yield the percentage of persisters and transfers.

Table IV-6

FRESHMEN WITHDRAWAL RATES (IN PERCENT) BY TYPE AND SELECTIVITY LEVEL OF INSTITUTIONS

Institutional Selectivity		Four-Year College				Two-Year College[1]			
		Total[2]	(Acad.	Nonacad.)	N	Total[2]	(Acad.	Nonacad.)	N
(unknown)	0	29.26	(6.99	22.27)	229	30.35	(5.63	24.72)	1084
(low)	1	20.42	(5.26	15.16)	475	28.65	(6.43	22.22)	342
	2	22.67	(5.50	17.17)	600	23.71	(6.27	17.44)	367
	3	18.92	(4.82	14.10)	851	33.64	(6.73	26.91)	223
	4	14.22	(3.23	10.99)	992	--	--	--	--
	5	9.40	(3.37	6.03)	564	--	--	--	--
	6	11.22	(1.35	9.87)	223	--	--	--	--
(high)	7	5.53	(1.84	3.69)	217	--	--	--	--

1/ A dash (--) indicates that the number of sample members was too small for a reliable estimate.

2/ Subtracting this number from 100 will yield the percentage of persisters and transfers.

many studies have provided some information about subgroup differences in withdrawal, the NLS data provide the most recent nationwide picture because of the advantages discussed earlier in this report. However, it should be noted that the analyses in this section are intended to describe rather than to explain the variation in withdrawal rates among the selected subpopulations.

1. Ethnic Difference[1/] in Withdrawal Rates

Over the two school years after high school graduation, varying ethnic proportions entered college. Table IV-7 shows that the total entrance rates differed according to race and sex. Whites had the highest entrance rates for four-year colleges while Hispanics had the lowest. Hispanics had the highest entrance rates for two-year colleges while blacks had the lowest. In general, males had a slightly higher entrance rate than did females. The only exception was that black females had a higher four-year college entrance rate than did black males.

The proportion of those individuals entering college in the fall of 1972 and 1973 who failed to return for study in the fall of 1974 is summarized in Table IV-8. A more detailed classification of study status and the corresponding proportions of students in these statuses are presented in Appendix B.

There were no substantial ethnic differences in withdrawal rates. Although the observed withdrawal rate for white men was lower than that of either black or Hispanic men for both two- and four-year colleges, only differences for two-year colleges were significant ($|Z|>2.33$ or $p<.01$). Among females, the observed ethnic differences were not significant at the .01 level for both two- and four-year colleges. There was

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1/ Three ethnic groups were included in the analyses: black, Hispanic, and white. Hispanic includes Mexican-American or Chicano, Puerto Rican, and others of Latin American origin. Other ethnic groups, such as American Indian and Oriental, were not included because their numbers were too small for making statistically reliable national estimates. The ethnic classification was based upon the participants' reports of their ethnicity.

Table IV-7

PERCENTAGE OF THE CLASS OF 1972 ENTERING COLLEGE BY THE FALL OF 1973: BY SEX AND RACE

	Male			Female		
	Black	Hispanic	White	Black	Hispanic	White
Four-Year College	26.80	18.48	34.67	29.68	16.03	30.93
Two-Year College	13.31	26.52	18.08	12.13	21.19	16.03
TOTAL	40.11	45.00	52.75	41.81	37.22	46.96
N	1141	430	7751	1586	442	7881

Table IV-8

TOTAL WITHDRAWALS (IN PERCENT) OF THOSE ENTERING COLLEGE BY THE FALL OF 1973: BY SEX AND RACE

	Male			Female		
	Black	Hispanic	White	Black	Hispanic	White
Four-Year College	27.03	27.90	22.66	27.40	21.20	23.93
Academic Withdrawal	5.88	4.45	6.18	6.76	4.81	3.99
Nonacademic Withdrawal	21.15	23.45	16.47	20.64	16.39	19.94
N	294	88	2769	453	75	2476
Two-Year College	53.60	47.11	38.72*	43.77	43.36	37.81
Academic Withdrawal	6.28	12.67	6.33	6.85	5.06	4.53
Nonacademic Withdrawal	47.32	34.44	32.39*	36.92	38.30	33.28
N	145	110	1405	214	100	1238

*The percentage for blacks was significantly greater than that for whites ($|Z|>2.33$, $p<.01$).

not substantial evidence to support prior findings (Flax, 1971; Astin, 1975c) that the extent of withdrawal for blacks or Hispanics was greater than for whites.

Examination of Appendix B will show that a greater proportion of withdrawals left college at the end of the freshman year than at the end of the sophomore year, for every ethnic group. There were no substantial differences in respect to these proportions across ethnic groups.

2. Sex Differences in College Withdrawal

Information about sex differences in college withdrawal rates is also included in Table IV-8. Again, the observed sex differences were not significant. There was no evidence to support the suggestion that women have a higher withdrawal rate than do men (Astin, 1972; Cope, 1971; and Spady, 1970).

Separate examination of freshmen and sophomore withdrawal rates also failed to reveal any significant sex differences. Women were not more likely than men to withdraw for nonacademic reasons (see Appendix B).

3. Socioeconomic Status (SES)[2/] Differences in College Withdrawals

The percentages of the high school class of 1972 who entered college over two years for three SES groups are presented in Table IV-9. It is obvious that relatively more high SES group members than low SES group members entered college. This relationship was stronger for four-year colleges than for two-year colleges.

2/ SES was based upon a composite of father's education, mother's education, parental income, father's occupation, and a household items index. Factor analysis revealed a common factor with approximately equal loadings for each of the five components. Missing components were imputed as the mean of the subpopulation of which the respondent was a member, defined according to cross-classifications of race, high school program, and aptitude. The available standardized components, both imputed and nonimputed, were averaged to form an SES score when at least two nonimputed components were available. The continuous SES score was then assigned to one of the quartiles on the basis of the weighted frequency distribution of the composite score. The first quartile, the middle two quartiles, and the fourth quartile were respectively denoted as the low, middle, and high SES. In some analyses, the continuous SES score was used.

Table IV-9

TOTAL PERCENTAGE OF THE CLASS OF 1972 THAT ENTERED COLLEGE BY THE FALL OF 1973: BY SOCIOECONOMIC STATUS

	Socioeconomic Status			Total
	Low	Middle	High	
Four-Year College	15.69	26.15	57.77	31.63
Two-Year College	11.21	21.17	19.59	16.96
TOTAL	26.90	47.32	77.36	48.59
N	5781	9652	4698	20194[1/]

[1/] There were 63 cases missing SES information.

The proportions of students in each SES group who failed to return in the fall of 1974 are presented in Table IV-10. The high SES group had the lowest withdrawal rate among these three SES groups for both four-year and two-year colleges. Examination of freshman and sophomore withdrawal rates (see Appendix B) revealed a similar pattern.

E. Other Subgroup Differences in Withdrawal Rates

Some other subgroup differences in withdrawal rates are included in Appendix C. The subgroups include those defined by father's education, religion, percentage minority students in the high school where graduated, geographical region of the high school, birth order, study time (full-time versus part-time), work time (full- or part-time versus not working), field of study (academic versus nonacademic), and aptitude. It can be easily seen that differences in withdrawal rates were substantial among many of these groups. For example, students whose fathers had a graduate degree had a lower withdrawal rate than those whose fathers had only a high school education. Jews had the lowest withdrawal rate among people of different religions. Students working full time had a substantially higher withdrawal rate than students either working part time or not working at all. Students in academic fields of study (e.g., biological sciences, liberal arts) had a lower withdrawal rate than those in non-academic fields (e.g., health services, office and clerical, and public services). Full-time students had a significantly lower withdrawal rate than part-time students. Students with a higher academic aptitude had a lower withdrawal rate than students with a lower academic aptitude.

F. Summary and Discussion

About one-half of the high school class of 1972 entered some type of institution of higher education within two years after graduation. About 30 percent of those entrants withdrew from college during that same time period (with more dropping out from two-year than from four-year schools). There also were considerably more students withdrawing

Table IV-10

PERCENTAGE OF THOSE ENTERING COLLEGE BY FALL 1973 WHO HAD WITHDRAWN BY FALL 1974: BY SOCIOECONOMIC STATUS

	Socioeconomic Status		
	Low	Middle	High
Four-Year College	33.07	26.97	17.88††
Academic Withdrawal	8.24	5.76	4.04††
Nonacademic Withdrawal	24.83	21.21	13.84††
N	982	2749	2839
Two-Year College	46.60	40.36	32.99††
Academic Withdrawal	6.84	6.87	3.95-†
Nonacademic Withdrawal	39.76	33.49	29.04†-
N	643	1712	848

†† The high SES group had a significantly lower percentage than both the low and middle SES groups ($|Z|>2.33$, or $p<.01$).

-† The high SES group had a significantly lower percentage of withdrawal than the middle SES group only.

†- The high SES group had a significantly lower percentage of withdrawal than the low SES group only.

for nonacademic reasons than for academic reasons. Fewer sophomores withdrew than did freshmen. Private four-year institutions had a lower withdrawal rate than did public ones, but there was no difference between public and private two-year institutions.

Withdrawal rates did not vary consistently with the size of the institutions, but they did show a strong relationship to the selectivity index of the college; the higher the selectivity of the institution, the lower the withdrawal rate for four-year institutions.

There were no substantial ethnic or sex differences in withdrawal rates. Differences were found among SES groups; as SES increased, the withdrawal rate decreased sharply, especially for four-year colleges.

The above general findings are fairly consistent with previous research, except for the finding that there were no substantial sex differences in withdrawal rates from college. This is contrary to findings in several other studies (e.g., Astin, 1972, 1975c; Cope, 1971; Spady, 1970). This finding may be explained by the following three factors. First, the sample is a very recent one, and therefore may show societal changes which have occurred over the past several years (primarily due to increasing societal interest in obtaining and retaining more women and blacks in postsecondary education). Second, the study is longitudinal and does not count transfers and stopouts (i.e., students withdrew temporarily) as withdrawals which many previous studies have done; both of these groups may be overrepresented with females. Third, the NLS data base is larger, more representative, and more comprehensive than data bases typically used to make these types of estimates.

However, it should be noted that when other variables are controlled, some subgroup differences may emerge. In fact, it was true in the case of ethnic differences. As shown in Chapter VI, ethnicity was significantly related to withdrawal rate from four-year colleges when SES was taken into account. This relationship was not revealed in simple tabulations as presented in this chapter. Sex differences were, nevertheless, still not significant even after SES or other variables were considered (see Chapter VI).

V. STUDENTS' SELF-REPORTED REASONS FOR WITHDRAWAL

It is always of prime interest to educational program decisionmakers to know why a student withdraws before completion of a course or curriculum, because an effective solution to the withdrawal problem could most likely be offered were the reason known. While reasons may be inferred from a rigorously controlled study or perhaps causal analyses, a common and convenient way is to ask the student to indicate his/her reasons for withdrawing. The validity of such self-reported post hoc reasons for withdrawal is, of course, questionable. Withdrawal behavior is complex, and there is a natural tendency for an individual to rationalize unsuccessful behavior. Spady (1970) cites a number of studies which have shown that students tend to explain their college failure with more socially acceptable reasons; they tend to inflate their financial problems and to deny academic difficulties, lack of motivation, and indecision. Even so, self-reported reasons are still useful in suggesting some of the reasons for which students withdraw, particularly for those who give no indications of academic problems.

Students who withdrew from college before receiving a degree were asked in the first and second follow-up surveys to state their reasons for withdrawing. The reasons listed in the second follow-up survey (primarily sophomore or second-year withdrawals) are slightly different from those in the first follow-up (primarily freshmen or first-year withdrawals). Tables V-1 and V-2 summarize the data that are discussed in this chapter.

It is important to remember that students were originally classified for analysis purposes as withdrawing for academic or nonacademic reasons. The academic withdrawal category was based on self-reported grade-point averages of below "C" or a positive answer to one or both of two questions indicating difficulty with course work.

Two major questions which these data answer are: (1) Did the academic withdrawals state that they withdrew primarily because of academic difficulties, or did they also experience other problems? (2) What were the primary nonacademic reasons that students gave for withdrawing?

A. Reasons for Freshman Withdrawal

The tabular summary of the reasons given by freshman withdrawals is presented in Table V-1. It can be seen that reasons other than academic problems were reported by substantial percentages of those who were classified as academic withdrawals in both four-year and two-year institutions. About 20 percent or more of the academic withdrawals from the four-year institutions said they withdrew because they wanted practical experience, school work was not relevant, a good job was offered, or they had financial problems. The percentages were slightly different for students from two-year colleges, but the pattern was the same. The existence of financial difficulties may very well interfere with academic performance; but as noted by Spady (1970), students tend to exaggerate their financial problems. The other three reasons frequently endorsed by academic withdrawals, however, could be to some extent rationalizations through which they were denying the reality of their academic problems.

About 10 percent or less of the academic withdrawals from both institutional types reported that they withdrew because of illness, family emergencies, marriage plans, or home sickness. These, of course, can be very important factors in lowering grades. Except for marriage plans, the same pattern holds for nonacademic dropouts. More nonacademic withdrawals (28.01 percent) from the four-year institutions than from the two-year institutions (14.39 percent) claimed to have withdrawn because of marriage. This institutional difference may be explained by the fact that two-year schools are more likely to be nonresident schools (i.e., community colleges with mostly commuting students), and therefore marriage arrangements would not affect college-going as much. Further examination of these data by sex supported previous research (e.g., Astin, 1975c) that there was a greater number of females than males who withdrew because of marriage plans. For example, about 13 percent of the four-year college male nonacademic withdrawals indicated this reason as compared to 39 percent of female withdrawals who did so. The same pattern existed between males and females in other withdrawal categories.

Table V-1

PERCENTAGE OF FRESHMEN WITHDRAWALS REPORTING YES TO THE FOLLOWING REASONS FOR WITHDRAWAL, BY ORIGINAL ACADEMIC/NONACADEMIC CATEGORIES

Reasons[1/]	Four-Year College		Two-Year College	
	Academic	Nonacademic	Academic	Nonacademic
1. Became ill	8.59	6.50	2.81	4.73
2. Had financial difficulties	37.98	31.70	31.83	24.56
3. Family emergency	4.20	4.42	3.17	3.70
4. Was offered a good job	23.21	16.14	22.44	32.81††
5. Got married or planned to get married	7.56	28.01*	9.54	14.39††
6. School work was not relevant to the real world	28.16	20.89	19.81	16.50
7. Wanted to get practical experience	41.94	27.71*	29.66	34.60
8. Courses were too hard[2/]	25.40	0.00*	21.02	0.00*
9. Failing or not doing as well as I wanted[2/]	87.43	0.00*	81.79	0.00*
10. Became homesick	3.58	3.52	1.59	2.25
11. Other	32.77	47.27*	31.09	49.46*
Sample N	210	397	155	412

1/ Students were allowed to indicate more than one reason for withdrawing.

2/ By definition, nonacademic withdrawals should have a zero percent.

* Academic withdrawals significantly differ from nonacademic withdrawals ($|Z|>2.58$, or $p<.01$) within each type of institution.

†† Four-year nonacademic withdrawals significantly differ from two-year nonacademic withdrawals ($|Z|>2.58$, or $p<.01$).

Within each type of institution, nonacademic withdrawals did not report financial difficulties more frequently than academic withdrawals.

Leaving college because they were offered a good job was more frequently reported by two-year college nonacademic withdrawals (32.81 percent) than by four-year college nonacademic withdrawals (16.14 percent). It could be that students are more likely to withdraw from a two-year college to take a job.

A substantial proportion of students in all four groups reported "other" reasons for withdrawal (about 31 to 49 percent). This indicates that there were some types of reasons which the questionnaire failed to tap.

It should be noted that since items 8 and 9 (see Table V-1) were used to classify students as academic or nonacademic withdrawals, the zero percentages in the nonacademic category occurred as a result of the definition. On the other hand, a large percentage (about 75 percent) of those who were making less than a "C" average, and who were thus classified as academic withdrawals, did not report that their courses were too hard; and about 13 to 18 percent of the academic withdrawals failed to report that they were not doing as well as they wanted. Of course, courses can be perceived as being not hard even though they were not doing as well as desired. On the other hand, a large number of academic withdrawals could be denying their academic problems.

B. Reasons for Sophomore Withdrawal

For sophomore withdrawals (see Table V-2), the pattern of reasons reported by those in the nonacademic category appears to be generally the same as for freshman withdrawals. Large percentages of academic withdrawals stated other than academic reasons for their withdrawal: from four-year and two-year colleges about 49 and 16 percent, respectively, reported financial problems, 21 and 30 percent stated a good job offer, more than one-third from both institutional types said that school was not relevant to the real world or that they wanted practical experience, and more than 73 percent from both institutional types said they were not really sure what they wanted to do. Hence, a very large percentage

of academic withdrawals indicated a lack of clear goals or educational commitment. This becomes a more complex issue when it is seen that there were more academic than nonacademic dropouts who indicated that they lack a clear definition of career/educational plans. One wonders to what extent the low grades and course work difficulty are due to lack of goal clarity, or to what extent lack of goal clarity is affected by low grades and course work difficulty.

More second-year nonacademic withdrawals from four-year colleges than from two-year colleges reported being unsure about their plans. Since four-year institutions tend to have a liberal arts orientation rather than a vocational emphasis, this finding seems reasonable. The percentages reporting lack of clarity as a reason are substantial in all four categories, suggesting that, at least from the students' perspective, lack of clarity about goals is a strong reason for withdrawing, irrespective of academic problems.

Fewer nonacademic withdrawals than academic withdrawals from the four-year colleges reported financial problems, and within the academic category, substantially fewer two-year students than four-year students reported money problems. This seems logical since four-year colleges tend to be more expensive.

The nonacademic withdrawals appeared to be more convinced than were academic withdrawals that their school work was relevant to the real world.

The reported desire for practical experience was the same for academic and nonacademic second-year withdrawals from both institutional types (close to 40 percent). This pattern was different from the freshman withdrawals, in which more two-year nonacademic withdrawals reported this as a reason.

C. Summary

A major finding was that relatively large percentages of students who were classified as academic withdrawals reported a number of nonacademic

Table V-2

PERCENTAGE OF SOPHOMORE ACADEMIC AND NONACADEMIC WITHDRAWALS REPORTING YES TO REASONS FOR WITHDRAWAL, BY TYPE OF COLLEGE

Reasons[1/]	Four-Year College		Two-Year College	
	Academic	Nonacademic	Academic	Nonacademic
1. Became ill	0.67	6.00	9.16	2.24
2. Had financial difficulties	48.95	28.88*	16.41†	27.01
3. Was offered a good job	21.41	18.36	30.45	37.75††
4. Got married or planned to get married	10.48	25.50*	23.92	15.93††
5. School work was not relevant to the real world	38.16	20.93*	40.58	13.61*
6. Wanted to get practical experience	42.75	31.41	36.77	36.09
7. Failing or not doing as well as I wanted[2/]	82.53	0.00*	73.11	0.00*
8. Wasn't really sure what I wanted to do	72.63	45.18*	81.20	32.18*††
9. Other	25.20	38.46	44.13	48.26††
Sample N	92	563	45	360

1/ Students were allowed to indicate more than one reason for withdrawing.

2/ By definition, nonacademic withdrawals should have a zero percent.

* Academic withdrawals significantly differ from nonacademic withdrawals ($|Z|>2.58$, or $p<.01$) within each type of institution.

† Four-year academic withdrawals significantly differ from two-year academic withdrawals ($|Z|>2.58$, or $p<.01$).

†† Four-year nonacademic withdrawals significantly differ from two-year nonacademic withdrawals ($|Z|>2.58$, or $p<.01$).

reasons such as job offers and financial problems, for withdrawing. This supports the implication from previous findings (Spady, 1970) that dropouts may tend to underplay the academic problems which are the actual reasons for their dropping out. Among the sophomore academic withdrawals as contrasted to the nonacademic withdrawals, a large percentage indicated that they were not sure what they really wanted to do. It is difficult to tell if lack of goal clarity was a function of academic problems or if academic problems were a result of lack of goal clarity.

Among those students who were categorized as the first- and the second-year nonacademic withdrawals, substantial numbers reported financial difficulties, marriage plans, lack of clarity about plans, and a desire to get practical experience as reasons for withdrawing.

Considering only nonacademic withdrawals, a larger percentage of two-year than four-year students left because of good job offers. A larger percentage of four-year students than two-year students reported that they withdrew because of marriage plans; also among the sophomore withdrawals, more four-year withdrawals stated that they were not sure of their plans as compared to two-year withdrawals.

VI. FACTORS ASSOCIATED WITH WITHDRAWAL FROM COLLEGE

Another set of questions posed in this study includes: What variables are associated directly or indirectly with withdrawal? How do these variables operate in the withdrawal process? This chapter will examine the withdrawal process with respect to student characteristics and college experiences. The analyses may suggest some explanations for the withdrawal behavior, particularly when other information such as self-reported reasons are jointly considered. From the student's or the institution's perspective, this information will be helpful in understanding and eventually coping with the complex withdrawal process.

A. Methodological Considerations

Before attempting to examine the above questions, two things were considered: (1) the conceptualization of the withdrawal process, and (2) the selection of a statistical technique, although they are not necessarily independent from each other.

Conceptualization is useful in helping to organize variables meaningfully so that their interrelationships can be examined. Several conceptual models or explanatory theories of college withdrawal have been suggested in the previous research literature. Spady (1970), for example, developed an interactional model in which such personal attributes as dispositions, interests, and attitudes interact with such environmental influences and sources of demands as courses, faculty members, and peers. This interaction provides a student with opportunities for successful assimilation into the social and academic systems of an institution, and the student's decision to remain or withdraw is heavily influenced by the sufficiency of the rewards he finds within these systems.

Rootman (1972) also developed an interactional theory which asserts that voluntary withdrawal is related to the goodness of the fit between the individual and the college environment. If the degree of fit is poor, the individual will experience strain and will seek a mechanism to cope with the strain. Withdrawal is a mechanism for coping when the strain becomes too great.

Another interactional model which is similar to Spady's (1970) has been elaborated by Tinto (1975). According to the model, Tinto suggests an approximate parity between the interacting influence of integration into both social and academic systems of an institution. He also suggests that those behaviors which lead to academic dismissal be distinguished from those which lead to voluntary withdrawal from college.

These models all focused heavily on person-institution interactions. If the integration of the individual into the institutional environment is successful, either academically or socially, the individual is more likely to remain in the institution. These models, however, have not considered "intervention" factors, those steps which are introduced to improve the individual's integration into the environment. These "intervention" factors may include such things as financial aid and counseling services (counseling services information was not available in this study). The inclusion of interventional dimensions in these basic models may help us understand their role in the withdrawal process. For example, does financial aid reduce withdrawal rates for certain types of students when other variables in the model are controlled? This is particularly relevant from the prespective of policy-making; administrators, for example, may be able to assess the value of financial aid in helping various student subpopulations in attaining a college education.

The conceptualization of the withdrawal process is complex and basically involves five sets of variables: bio-social background, individual attributes, high school curriculum, college experience, and intervention programs. The process of withdrawing from college can be viewed as a longitudinal process of interactions among these variables. This process may be diagrammed as in Figure VI-1.

The conceptualization illustrates the complexity of the withdrawal process. The complexity will increase as more variable sets such as intervention variables are added to the model or specific variables are

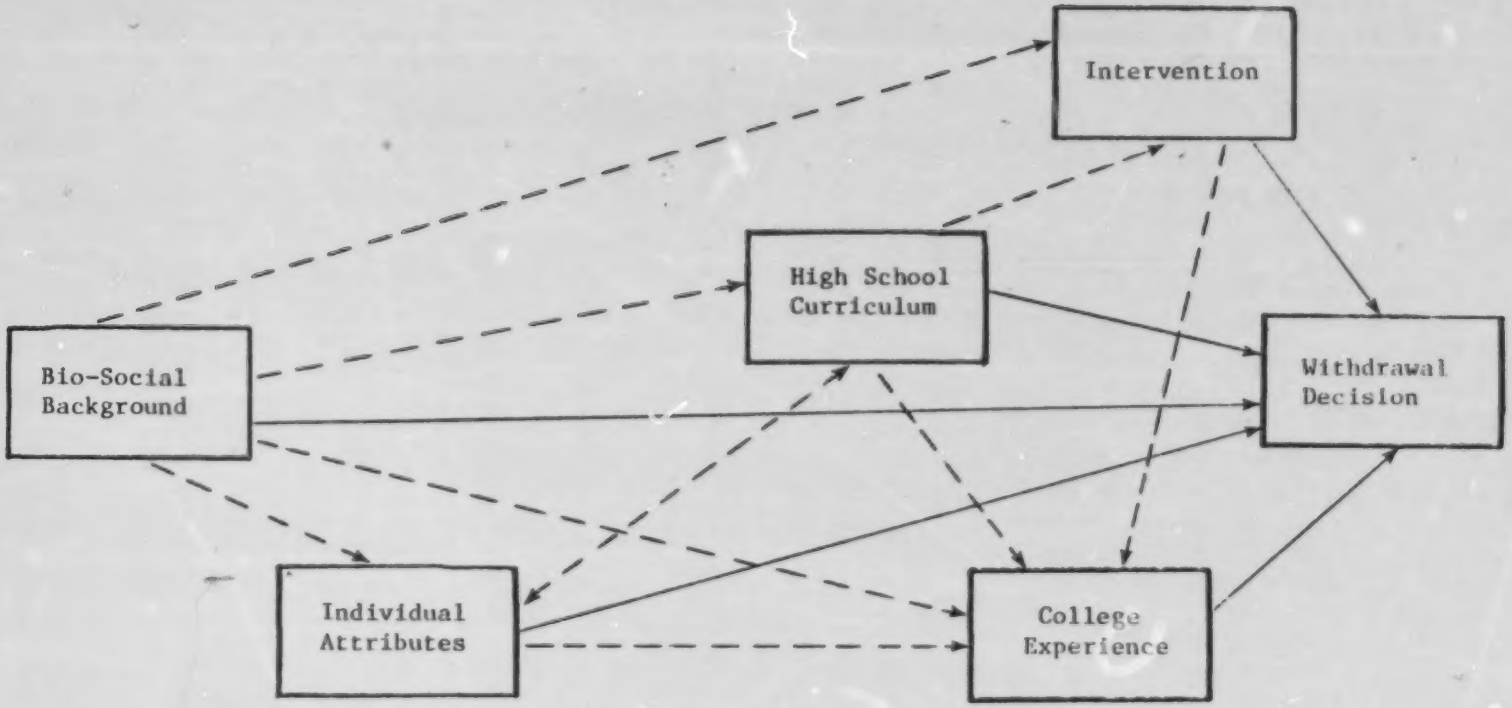

Figure VI-1. Conceptualization of the Withdrawal Process.

Note: Direct relationships with withdrawal are indicated by solid lines, and indirect relationships by broken lines. Arrows indicate hypothesized directions of influence.

added to variables sets (e.g., additional intervention variables). Nevertheless, this conceptualization helps to depict the possible direct or indirect relationship between a selected variable and the withdrawal decision.

This conceptualization helps the analyst determine which variables need to be in an analytical model as control variables when a particular hypothesis is being tested. For example, the analysis of the relationship between college experience and the withdrawal decision should probably take family background, individual attributes, and high school experience into consideration as control variables.

The analytical technique is generally selected on the basis of the type of data and the types of hypotheses to be tested. Several techniques can be used in studying the relationship between predictor variables and withdrawal behavior. Multiple regression is a commonly used technique (see, for example, Astin, 1972). Related techniques such as discriminant analysis and path analysis have also been used. The major limitation of regression analysis is that it is not easily adapted for use with categorical dependent variables when there are more than two categories as in the present study. In addition, path analysis and discriminant analysis do not easily allow for the study of interaction effects. Nevertheless, the multiple regression technique may provide useful information when the criterion variable is divided into several dichotomies.

A more suitable technique for the type of data and the conceptualization is the linear logistic model, or, briefly, the log-linear model (see Bock, 1975). This technique was developed for handling categorical data and is especially suitable for testing interactions among categorical variables. This is especially important since certain interactions between student attributes, college experiences, and intervention programs in affecting withdrawal behavior are hypothesized as being important. For example, an important question is whether or not financial aid is more effective in reducing withdrawal rates for certain types of students (e.g., high aspiring) than for others (e.g., low aspiring).

Log-linear modeling is based on the logistic distribution function. A linear model in the natural logarithms of the cell probability or cell

frequencies is analogous to analysis of variance models, expressing the model in terms of additive effects including a constant (i.e., grand mean of the logarithms of the probabilities), main effects, and interaction effects. For example, the probability of withdrawal for a subgroup by sex and race can be expressed by the following model: withdrawal = constant + sex effect + race effect + (sex x race) effect in terms of logarithm of the probabilities of withdrawal.

Log-linear modeling involves a hierarchical procedure. First, a model based on the independence of all variables (i.e., no relationship of predictors to withdrawal; a model composed of only the constant term) is fitted to the data. A goodness of fit statistic (e.g., chi-square) is computed on the basis of deviations of the observed cell Ns from those expected from the model. If the hypothesis of independence between the variables is rejected on the basis of a poor fit, then main effects are added to the model, and the cell deviations from the expected values based upon the main effects model are used to test for goodness of fit. If a main effects model does not adequately fit the data, then first order interaction terms are added to the model, and the model is then tested again for goodness of fit. In some cases, even this model will be rejected on the basis of goodness of fit, and higher order interaction terms will need to be added to the model to fit the data adequately. The basic idea in this hierarchial testing of effects is that initially we try to fit the data with the simplest possible model and proceed to more complex models only if the simpler models don't adequately fit the data. Once an adequate model is found, certain main effect and interaction contrasts of interest can be estimated and tested for significance for different response variable comparisons.

Since the log-linear modeling allows for interactions as well as main effects, the modeling is best applied to a smaller subset of variables than is typically used in regression analysis. There are two basic reasons for this: First, when higher order interactions are used in the log-linear modeling with highly related independent variables, the cell frequencies may become too sparse or ill-conditioned (i.e., cells with extremely large and small numbers) for reliable estimates of

interaction effects. Second, even if we could reliably estimate the interactions among a large set of variables, the interpretation of higher order interactions among a large set of variables is extremely difficult.

The basic strategy was to test specific hypotheses formulated on the basis of the conceptualization. Log-linear modeling was then performed on a set of four or five logically selected variables relating to the hypothesis. For example, an analysis was directed to answer a specific question about the effect of financial aid on student persistence, controlling for family socioeconomic status (SES) and educational aspiration. Both SES and educational aspiration were strongly related to withdrawal and, hence, should be controlled when testing for the effects of financial aid. These two variables could also interact with financial aid in accounting for withdrawal; that is, financial aid may be differentially related to withdrawal for different SES levels.

The contingency data were properly weighted for unbiased population estimates of all frequencies, as explained in Chapter II, Section F. The procedures involved first getting weighted proportions for each cell in the K-way table and then recomputing the cell sample N's by multiplying the weighted proportion by the actual sample size. For example, the weighted proportion of total withdrawal for the low SES group was .3307, and the sample size of the low SES group was 982; then the contingency frequency of low SES withdrawals used in the log-linear model tests was 325 (i.e., 982 x .3307 ≐ 325).

The response variable in all of the log-linear modeling analyses had four categories: persister, transfer, academic withdrawal, and nonacademic withdrawal. The four categories were needed for obtaining correct portions of withdrawals, as well as for comparison purposes. Transfers were students who moved from a four-year to a two-year college, or vice versa. Persisters were students who remained in four-year or two-year colleges. In the case of two-year colleges, persisters also included students who had completed programs but who had not continued in four-year colleges. Except for the analyses concerning college experiences and financial aid to be discussed later, assignment to these

four categories was based upon the students' college-going status in the fall of 1974. This data base included all individuals who initially enrolled in college in the fall of 1972 or 1973. Withdrawals would thus include all those students who withdrew in the school year of 1972-73 and continued withdrawing in the fall of 1974, and those students who first withdrew in the school year of 1973-74. This is the same definition of total withdrawals over two years as defined in Chapter IV. Freshman and sophomore withdrawals could not be analyzed separately and still maintain reasonable cell sizes for multiple classifications. In addition, freshman withdrawals and sophomore withdrawals were similar in their background variables (see Chapter IV) and reported reasons for withdrawal (see Chapter V).

B. Analysis and Results

The basic strategy, as mentioned previously, was to perform log-linear modeling on a set of logically selected variables relating to a hypothesis. A number of specific questions or hypotheses were addressed in the following analyses. While these questions are considered important, they are by no means exhaustive. Some additional information about the relationship between college withdrawal and a number of other variables of potential interest to other researchers is included as Appendix C.

The hypotheses tested by the analyses were guided by questions which are highlighted below. The questions have been arranged in an order that can be matched to the variable sequence in the conceptualization of the withdrawal process (see Figure VI-1).

1. The association between bio-social background and withdrawal.
   a. Are there any interaction "effects" among SES, sex, and race on withdrawal?
   b. If there are no interaction effects, do women have a higher withdrawal rate than men after SES and race are taken into account? Likewise, are there any race effects on withdrawal? Does SES have a direct association with withdrawal?

2. The association between student attributes and withdrawal.
   a. Are there any interaction "effects" among SES, aptitude, and aspiration on withdrawal?
   b. If there are no interactions, are students of low academic aptitude more likely than students of high aptitude to withdraw after SES and/or aspiration are considered? Likewise, are students with low educational aspirations more likely to withdraw than students with high aspirations after SES and/or aptitude are considered?
3. The association between high school curriculum program and withdrawal.
   a. Are there interaction "effects" between SES and high school program on college withdrawal?
   b. If there are no interactions, are students from the college-preparatory high school programs less likely to withdraw than students from non-college-preparatory programs after SES is considered?
4. The association between college experience and withdrawal.
   a. Do SES and level of aspiration interact with the degree of academic and social integrations with respect to withdrawal behavior?
   b. If there are no interactions, is the degree of student integration into the academic system associated with withdrawal rates after SES and aspiration are considered? Likewise, is the degree of student integration into the college social systems related to withdrawal after SES and aspiration are considered?
5. Financial aid and college withdrawal.
   a. Does financial aid reduce the differences in withdrawal rates among students of lower SES and higher SES?
   b. How does financial aid interact with SES and level of aspiration in affecting withdrawal rates?

In addition to the above analyses employing log-linear modeling techniques, multiple regression analyses on the variables used in the

log-linear model analysis were conducted on a compatible data base for comparison purposes, although some data transformations were needed for regression analyses on categorical variables. The results (see Appendix D) provided conclusions almost identical to those drawn from the log-linear modeling employed in this study.

1. Bio-Social Background

Three bio-social variables were selected for investigation: family socioeconomic background (SES), sex, and race. As mentioned previously, these variables are frequently used in the study of educational opportunity. The relationship between these variables and college withdrawal may reflect some social or cultural biases that need to be corrected or remedied.

a. Family Socioeconomic Status (SES)[1/] and College Withdrawal

SES is assumed to have a large direct association with college withdrawal, and it may interact with other variables to bring forth differential effects on college-going behavior. Many previous studies have tested this assumption, and the findings have been generally affirmative: students from lower SES families are more likely than those from higher SES families to withdraw from college (e.g., Astin, 1964; Eckland, 1964b; Lembesis, 1965; McMannon, 1965; Panos & Astin, 1968; Sewell & Shah, 1967; Wegner, 1967). The descriptive analyses of NLS data (see Chapter IV) have also provided some evidence to support these findings. It seems reasonable to conclude that SES is significantly related to withdrawal behavior. Information that would be more useful and interesting is the interaction of SES with other variables in affecting withdrawal decisions.

In many of the following logistic model analyses, SES was included in the model to examine its interactions with other variables and to adjust the effects of other variables in the model. For example, the effects of race were adjusted for race differences in SES. In most cases, the interaction effects were not substantial. The exceptions were interactions with financial aid and educational aspiration. In the

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[1/] The definition of SES for this analysis is presented in Chapter IV.D.

present model for four-year colleges (see Table VI-1), SES was related to the four category response variable, but Table VI-3a indicates that SES had little effect in distinguishing between academic and nonacademic withdrawals but did distinguish the combined withdrawal group from persisters and transfers combined. The same analyses for two-year college students led to similar conclusions (see Tables VI-2a and VI-4).

b. Sex Differences and College Withdrawal

Many studies as reviewed by Summerskill (1962) indicated that there were no substantial sex differences in college withdrawal. Tinto (1975), however, reported that the sex of the individual did appear related to withdrawal behavior. He concluded from his review that women have a higher dropout rate, with a greater proportion of them being voluntary withdrawals rather than academic dismissals. Astin (1972), on the other hand, found that women were more likely to complete either a four-year college degree or an associate's degree than were men. Spady (1970) concurred, but noted more specifically that the data suggest that women are more likely to be voluntary dropouts than are men. His major inference from reviewing the data on sex differences is that "survival in college is dependent largely on a clear and realistic set of goals and interests that are compatible with the influences and expectations of departmental faculty and curricula. Men in particular, however, appear to maintain high expectations despite the academic realities of college life."

The present results, however, agreed with Summerskill's (1972) conclusion: there were no substantial sex differences in college withdrawal. As presented in Chapter IV, men and women had similar withdrawal rates from both the four-year and the two-year college. A further investigation on the total withdrawal rate over two years also failed to reveal any sex effect after socioeconomic background (SES) and ethnicity were considered. Results of log-linear model analysis of the response variable by SES, sex, and race (see Appendix E-1 for observed cell proportions) showed that the sex and all interaction effects could be assumed null. As seen in Table VI-1, the residual chi-squares of 60 for Model 3 (i.e., constant + SES + race) with 39 degrees of freedom was

not significant ($p>.01$), indicating this model could fit the data sufficiently well. This is the same as saying that withdrawing from four-year colleges, either academically or nonacademically, could be considered as a function of SES and race (i.e., SES and race were retained in the model), and sex effects could be assumed nonexistent. This finding was also applicable to students from two-year colleges (see Tables VI-2 and VI-4). It is thus concluded that the probabilities of withdrawal for men and for women students from four-year or two-year colleges were not significantly different, regardless of whether the students were black or white, or were from low SES or high SES families.

c. Race and College Withdrawal

Race differences in college withdrawal have been frequently examined in the study of equality of educational opportunity. Studies have found that blacks are more likely than whites to withdraw (e.g., Flax, 1971). Astin (1975c) has shown that whites and Orientals had lower dropout rates than Hispanics, American Indians, and blacks. Although the descriptive analysis in Chapter IV revealed slight differences in withdrawal rates between whites and minority group members (blacks and Hispanics), the log-linear model tests (see Tables VI-1 and VI-2) indicated that race was associated with the classifications of persistence-transfer-withdrawal status after controlling for SES, but there were no interaction effects among race, SES, and sex. That is, within each SES level, race differences in college-going status were about the same.

An examination of estimated effects in the main-effects model for the data further described the association between race and the classification of withdrawal, and persisters and transfers combined, for both four- and two-year colleges (see Tables VI-3 and VI-4). Differences between whites and Hispanics in overall withdrawal rates were significant for both four-year and two-year colleges (see column two of the tables). Whites were more likely than Hispanics to withdraw after controlling for SES. The total withdrawal rates from four-year colleges were about 26,

Table VI-1

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, SEX, AND RACE WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	100.33	45	<.01
2. Constant + SES + Sex	87.07	42	<.01
3. Constant + SES + Race	60.00	39	>.01
4. Constant + SES + Sex + Race	44.37	36	>.15

Table VI-2

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, SEX, AND RACE WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	85.30	45	<.01
2. Constant + SES + Sex	76.27	42	<.01
3. Constant + SES + Race	56.26	39	>.03
4. Constant + SES + Sex + Race	48.44	36	>.08

26, and 21 percent for black, white, and Hispanic students, respectively, after balancing on SES and sex. The total withdrawal rates from two-year colleges were about 44, 41, and 40 percent for black, Hispanic, and white students, respectively. The differences in withdrawal rates between whites and blacks were not statistically significant after SES and sex were considered.

The classification of academic and nonacademic withdrawals was not dependent upon race; that is, the differences in the extent of academic and nonacademic withdrawals were similar across every race group. This is shown in column one of Tables VI-3 and VI-4. None of the estimated contrasts were significant, except for the constant term. Significance for only the constant term indicates that there was a difference in proportion between academic and nonacademic withdrawals but that this difference was consistent across SES and race groups.

2. Student Attributes and College Withdrawal

a. General Academic Aptitude and College Withdrawal

Many previous studies have shown that academic aptitude is perhaps the most important measure of individual characteristics related to withdrawal, particularly academic withdrawal (e.g., Sewell & Shah, 1967; Wegner, 1967; Wegner & Sewell, 1970). A simple explanation is that students of lower aptitude are less likely to be able to meet the academic demands of college and thus are more prone to withdraw than students of higher aptitude.

Measures of academic aptitude can be obtained from standardized ability tests or from high school grade performance. In the following analyses, the ability measure was a composite score of four tests: Vocabulary, Reading, Letter Groups, and Mathematics. A factor analysis revealed a general academic ability factor that was represented by an equally weighted linear composite of these four standardized tests. The composite score was classified into a low, middle, or high category corresponding to the first quartile, the middle two quartiles, or the fourth quartile.

Table VI-3

ESTIMATED EFFECTS IN THE MAIN EFFECT MODEL FOR
STUDENT PERSISTENCE-TRANSFER-WITHDRAWAL STATUS BY SES, RACE, AND SEX
(4-YEAR COLLEGE)

Contrast	Academic vs. Nonacademic Withdrawal	Persister + Transfer vs. Withdrawal
Constant	-1.32*	1.36*
SES		
Low-High	0.13	-1.95*
Middle-High	-0.11	-0.83*
Race		
Black-White	-0.01	0.44
Hispanic-White	-0.35	2.05*

*The effect is 2.33 times greater than its standard error.

Table VI-4

ESTIMATED EFFECTS IN THE MAIN EFFECT MODEL FOR
STUDENT PERSISTENCE-TRANSFER-WITHDRAWAL STATUS BY SES, RACE, AND SEX
(2-YEAR COLLEGE)

Contrast	Academic vs. Nonacademic Withdrawal	Persister + Transfer vs. Withdrawal
Constant	-1.71*	0.96*
SES		
Low-High	0.08	-1.20*
Middle-High	0.34	-0.87*
Race		
Black-White	0.03	-0.51
Hispanic-White	0.46	-1.28*

*The effect is 2.33 times greater than its standard error.

High school grades (HSG), as reported by the students, were classified into two categories: those being greater than or equal to a "B-" average (about half B and half C), and those being less than a "B-" average. They were labeled as the high and low group, respectively.

Students were classified by SES, HSG, and ability as well as by four college-going categories (i.e., the response variable). The resultant cell proportions (see Appendix E, Tables E-5 and E-6) were then subjected to log-linear model analyses. The results for the four-year college students revealed that the classification of persistence-withdrawal status was related to high school grade and ability test scores even after SES was considered. As shown in Table VI-5, Model 4 (i.e., constant + SES + HG + ability) could fit the data sufficiently well; the residual chi-square of 29.04 with 36 degrees of freedom was not significant at the .01 level. If either HSG or ability was excluded from the model, the residual chi-square indicated that substantial variation could not be accounted for (see Models 2 and 3). This meant that both HSG and ability test scores were needed for an adequate fit of the data; that is, there were differences in withdrawal rates between groups defined by high school grades, and between groups by ability test scores. The high-school-grade group differences were consistent across the ability groups. Interaction terms were not needed for an adequate fit. The same pattern of association was also found among the two-year college students (see Table VI-6).

A question of interest is whether the classification of academic and nonacademic withdrawals depended upon aptitude measures. Analysis indicated that there was a significant relationship between high school grade and the academic-nonacademic withdrawal comparison after all the other main effects were controlled (see Table 7). As shown in Table VI-8, withdrawals with low high-school grades were more likely than withdrawals with high grades to be classified as academic withdrawals. (The ratio of academic to nonacademic withdrawal was about seven to ten as compared

Table VI-5

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, HIGH SCHOOL GRADE (HSG), AND ABILITY TEST SCORES WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	233.51	45	<.01
2. Constant + SES + HSG	120.24	42	<.01
3. Constant + SES + Ability	118.58	39	<.01
4. Constant + SES + HSG + Ability	29.04	36	>.78

Table VI-6

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, HIGH SCHOOL GRADE (HSG), AND ABILITY TEST SCORES WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	164.19	45	<.01
2. Constant + SES + HSG	106.12	42	<.01
3. Constant + SES + Ability	88.36	39	<.01
4. Constant + SES + HSG + Ability	46.28	36	>.11

to about two to ten for withdrawals with high school grades greater than or equal to a "B-" average.) However, this difference was not statistically significant among categories of ability test scores after SES and HSG were controlled. This seemed to indicate that high school grade was more predictive than standardized test score with respect to the classification of academic and nonacademic withdrawal (a finding which is common in other studies). The same conclusion could be drawn for students from two-year institutions (see Table VI-9).

b. Educational Aspiration and College Withdrawal

In addition to the individual's ability, the individual's educational aspiration is an extensively studied variable of student attributes related to withdrawal. A generally conceded notion is that when an individual aspires to go to college, his or her aspiration may overshadow any barrier or difficulty, and the individual will continue to realize his or her educational goal. Numerous studies have provided evidence to support the strong relationship of aspiration with college persistence (Krebs, 1971; White, 1971; Sewell & Shah, 1967; Spady, 1970). As Tinto (1975) summarized in a review, aspiration measured in terms of educational plans, educational expectations, or career expectations is highly related to college completion, even after the family's SES and aptitude are taken into account. The following analyses further supported this conclusion.

In the following analyses, a student's educational aspiration was measured by the student's responses to a question in the base-year survey about how much education he or she would like to have. (First follow-up data were used for those sample members whose base-year data were not available; those members were primarily from the sample schools that failed to participate in the base-year survey.) The responses were grouped into three categories: (1) high school only, or some vocational studies beyond high school (<coll); (2) some college education, including a two-year college degree (2-yr coll); and (3) four-year college education or graduate school (≥4-yr coll).

Table VI-7

ESTIMATED EFFECTS IN THE MAIN EFFECT MODEL FOR STUDENT PERSISTENCE-TRANSFER-WITHDRAWAL STATUS BY SES, HIGH SCHOOL GRADE, AND ABILITY TEST SCORES (4-YEAR COLLEGE)

Contrast	Academic vs. Nonacademic Withdrawal	Persister + Transfer vs. Withdrawal
Constant	-1.00*	0.19
SES		
Low-High	0.37	-1.47*
Middle-High	0.13	-0.93*
High School Grade		
Low-High	-0.96*	1.30*
Ability		
Low-High	-0.22	-1.05*
Middle-High	-0.06	-0.57

*The effect is 2.33 times greater than its standard error.

Table VI-8

OBSERVED WITHDRAWAL RATE BY HIGH SCHOOL GRADE[1/]
(4-YEAR COLLEGE)

High School Grade	Academic Withdrawal	Nonacademic Withdrawal
< B- Average (low)	.19	.28
≥ B- Average (high)	.05	.22

1/ After SES and ability were controlled (i.e., the proportions were averaged across SES and ability test score categories).

Table VI-9

ESTIMATED EFFECTS IN THE MAIN EFFECT MODEL FOR STUDENT PERSISTENCE-TRANSFER-WITHDRAWAL STATUS BY SES, HIGH SCHOOL GRADE, AND ABILITY TEST SCORES (2-YEAR COLLEGE)

Contrast	Academic vs. Nonacademic Withdrawal	Persister + Transfer vs. Withdrawal
Constant	-1.75*	1.01*
SES		
Low-High	0.24	-1.16*
Middle-High	0.48	-0.91*
High School Grade		
Low-High	-0.68*	1.46*
Ability		
Low-High	0.00	-1.61*
Middle-High	0.16	-0.74*

*The effect is 2.33 times greater than its standard error.

The association between educational aspiration and college withdrawal was examined by controlling SES and aptitude as measured by high school grade-point average (HSG). The tests of fit for a logistic model for the four-year college contingency data (see Appendix E, Table E-5) are presented in Table VI-10. The chi-square of 517.38 with 42 degrees of freedom ($p<.01$) of Model 2 (i.e., constant + SES + HSG) indicated that a model excluding aspiration would not sufficiently fit the data. When aspiration was added to the model, the chi-square of 55.17 with 36 degrees of freedom was not significant at the .01 level, indicating that interaction terms were not needed to adequately fit the data. This indicated that the four-year college students' study status classifications depended upon aspiration even after SES and HSG were controlled. The same was true for two-year college students (see Table VI-11). Referring to Table VI-12, it can be seen that students of lower aspiration had higher withdrawal rates than students of higher aspiration for both the four-year and two-year colleges. The magnitude of difference in nonacademic withdrawal for four-year colleges, for example, was about 35 percentage points [i.e., (.54 - .19) X 100] between low-aspiration and high-aspiration students after SES and HSG were taken into account.

Since aspirations are strongly (negatively) related to withdrawal behavior, it might be of interest to test if HSG is still associated with college student withdrawal after aspiration is considered. As shown in Table VI-10, when either HSG or aspiration was left out of the model, residual variations were still too large to be assumed insignificant (see Models 2 and 3). Therefore, both HSG and aspiration were needed in a model which could sufficiently fit the data; this is the same as saying that both had significant "effects" on college withdrawal.

The association between aspiration and the classification of academic and nonacademic withdrawals was examined and found to be not statistically significant. This indicates that the difference in proportion between academic and nonacademic withdrawals could be assumed to be the same for each aspiration level.

Table VI-10

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, HIGH SCHOOL GRADE (HSG), AND ASPIRATION (ASP) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	711.60	45	<.01
2. Constant + SES + HSG	517.38	42	<.01
3. Constant + SES + ASP	199.08	39	<.01
4. Constant + SES + HSG + ASP	55.17	36	>.02

Table VI-11

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, HIGH SCHOOL GRADE (HSG), AND ASPIRATION (ASP) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	412.15	45	<.01
2. Constant + SES + HSG	342.80	42	<.01
3. Constant + SES + ASP	106.93	39	<.01
4. Constant + SES + HSG + ASP	50.88	36	>.05

Table VI-12

OBSERVED WITHDRAWAL RATE BY ASPIRATION[1/]

Aspiration	4-Year College		2-Year College	
	Academic	Nonacademic	Academic	Nonacademic
Low	.21	.54	.13	.51
Middle	.22	.41	.06	.44
High	.11	.19	.06	.30

1/ After SES and ability (high school grade) were controlled.

3. High School Curricular Programs (HSP) and College Withdrawal

High school curricular programs were classified into two categories: college preparatory and non-college-preparatory programs. The latter included vocational and technical programs as well as general curricular programs. Presumably, these programs were designed for different purposes. The college preparatory programs were designed to prepare students for college, and they may lead students to a greater commitment to or integration into the college system. A high degree of integration, as postulated by Spady (1970) and Tinto (1975), is a premise to a high degree of persistence. Students from college preparatory programs were, therefore, hypothesized to have a higher persistence rate than students from non-college-preparatory programs. The result of the analysis might have implications for student counseling. For example, if the non-college-preparatory-program graduates were likely to withdraw, it could be that some of those students were ill-advised to go to college or that they were inadequately prepared for college. This could also point to possible early mistakes in high school to enroll those students in non-college-preparatory programs.

The choice of college preparatory programs has been shown to be associated with students' family background (SES) (see, for example, Alexander & McDill, 1975). More high SES students than low SES students enroll in college preparatory programs, and thus SES may confound the relationship between high school program and college withdrawal. The following analyses, therefore, took SES into account in the models.

Tests of fit for logistic models for the contingency data (see Appendix E, Tables E-7 and E-8) revealed that students from college preparatory programs were more persistent than those from non-college-preparatory programs. Comparison between Model 1 and Model 2 (see Table VI-13) revealed that HSP needed to be included in the model to fit the data from four-year colleges. This indicated that high school programs were related to the four-year college student classification, even after SES was considered. However, there were no SES-HSP interaction effects, indicating that the effects of high school programs on college withdrawal were consistent across SES levels. Referring to Table VI-14,

it can be seen that students from non-college-preparatory high school programs had higher withdrawal rates than students from college preparatory programs within each SES level. This finding was generalizable to students from two-year colleges (see Table VI-15).

The association of high school program and the academic and nonacademic withdrawal classification was examined and found to be not statistically significant. Students from non-college-preparatory high school programs were not more likely than those from college preparatory programs to withdraw for academic reasons.

4. College Experience and Withdrawal

As discussed in the begining of this chapter, college withdrawal could be largely due to incongruence between the expectations of the individual and the college environment as perceived by the student after arriving on campus. Several interactional conceptualizatons of the withdrawal process (e.g., Spady, 1970; Tinto, 1975; Rootman, 1972) assumed that if the integration of an individual into the institutional environment is successful, either academically or socially, the individual is more likely to remain in the institution. The success of integration, however, may also depend upon the student's personal background factors, and thus these variables were taken into account in the investigation of college integration and college withdrawal behavior.

As argued by Tinto (1975), an individual's integration into the academic system of a college can be measured in terms of his evaluation of the academic system. Likewise, social integration can be reflected in a student's evaluation of the social life on campus.

In the NLS first follow-up survey, students were asked to indicate how satisfied they were with (1) the ability, knowledge, and personal qualities of most teachers; (2) the social life; (3) development of work skills; and (4) intellectual growth. The ratings are on a five-point scale, ranging from very satisfied to very dissatisfied. A factor analysis revealed that development of work skills and intellectual

Table VI-13

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES AND HIGH SCHOOL PROGRAM (HSP) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	161.48	9	<.01
2. Constant + SES + HSP	7.60	6	>.26

Table VI-14

OBSERVED TOTAL WITHDRAWAL RATE BY SES AND HIGH SCHOOL PROGRAM
(4-YEAR COLLEGE)

SES	High School Program	
	Noncollege	College
Low	.44(.32)	.26(.20)
Middle	.38(.31)	.21(.18)
High	.29(.22)	.15(.12)

Note: The figures in the parentheses were nonacademic withdrawal rates; subtracting them from the preceding figures yields academic withdrawal rates.

Table VI-15

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES AND HIGH SCHOOL PROGRAM (HSP) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	135.38	9	<.01
2. Constant + SES + HSP	9.46	6	>.14

growth reflected a common factor; thus, the simple average of the two ratings was used as one measure to reflect academic integration. The ratings on faculty quality and social life each loaded primarily on separate factors and were consequently analyzed separately. The composite rating and the two individual ratings were later classified into two categories: dissatisfied (individual ratings or average ratings greater than 3), and not dissatisfied (including neutral or no opinion).

The above measures were applicable to those individuals who were in college at some point in time between the fall of 1972 and the fall of 1973. Consequently, only those students who enrolled in the fall of 1972 and withdrew during or at the end of their first year were included in withdrawal categories. To make them somewhat more compatible with the classifications in the preceding analyses, those withdrawals who re-entered colleges in the fall of 1974 were classified into the other category (primarily transfers), and the persisters included only those students who remained in the same college. The four student classifications--academic withdrawal, nonacademic withdrawal, persister, and other--were the response categories in the following log-linear model analyses.

a. Quality of Faculty

The contingency data classified by the quality of faculty (FACQ), socioeconomic background (SES), and educational aspiration (ASP) were subject to log-linear model tests (see Appendix E, Tables E-9 and E-10 for data set). SES and ASP were added to serve as control variables because they were assumed to influence the patterns of social and academic integration and their interactions. The results of the model fitting are presented in Table VI-16. When FACQ and interaction effects were excluded, the model did not sufficiently fit the data (see Models 1 and 2). When FACQ was added to the model, the residual chi-square of 43.94 with 36 degrees of freedom ($p>.17$) for Model 3 (i.e., constant + SES + ASP + FACQ) shows that interaction effects among the independent variables could be assumed insignificant. Comparisons of these models revealed that FACQ needed to be included in the model. This is the same as saying that FACQ was related to student classifications after adjusting for SES and ASP. It can be easily seen in Table VI-17 that students who

were dissatisfied with faculty quality had a 40 percent total withdrawal rate (including 29 percent of the nonacademic withdrawal rate) while satisfied students had a 34 percent total withdrawal rate (including 22 percent of the nonacademic withdrawal rate), after SES and aspiration were considered. However, since the data for this and the following ratings were obtained after the student had already withdrawn, the data could reflect biased judgment or a rationalization for withdrawal. The above findings from the four-year college students were also found among the two-year college students (see Table VI-18).

It is thus concluded that the student's perception about the quality of faculty members appeared to be related to withdrawal; students dissatisfied with the ability, knowledge, and personal qualities of most faculty members in their college had a higher withdrawal rate than satisfied students, even after such variables as SES and educational aspiration were taken into account. Whether this reflects a reaction from the student as a consequence of withdrawal or whether it reflects lack of satisfaction as a cause of withdrawal is a question which cannot be answered here. This finding, however, does support the speculation of researchers, especially Tinto (1975).

A further examination of the data revealed that there were no differences in the ratings of faculty quality between academic and nonacademic withdrawals.

b. Social Integration (SOCL)

The technique used in the preceding analysis on faculty quality was applied to the study of the relationship of dissatisfaction with social life on campus to withdrawal behavior. Tests of the log-linear model for the contingency data (see Appendix E, Table E-11) are presented in Table IV-19. Like faculty quality, social life appeared to be related to withdrawal from four-year colleges. The comparison between the second and the third models showed that SOCL needed to be included in the model, indicating that the SOCL effect was a significant factor

Table VI-16

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND FACULTY QUALITY (FACQ) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	821.86	45	<.01
2. Constant + SES + ASP	98.68	39	<.01
3. Constant + SES + ASP + FACQ	43.94	36	>.17

Table VI-17

OBSERVED WITHDRAWAL RATES BY FACULTY QUALITY[1/]
(4-YEAR COLLEGE)

Faculty Quality	Academic Withdrawal	Nonacademic Withdrawal	Total Withdrawal
Satisfied	.12	.22	.34
Dissatisfied	.11	.29	.40

1/ After SES and educational aspiration were controlled.

Table VI-18

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND FACULTY QUALITY (FACQ) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	324.72	45	<.01
2. Constant + SES + ASP	79.94	39	<.01
3. Constant + SES + ASP + FACQ	31.96	36	>.66

in the classification of students. This relationship between SOCL and withdrawal is further described in Table VI-20. It is clearly shown that students dissatisfied with social life on campus were more likely to withdraw even after SES and aspiration were taken into account. Again, it should be cautioned that the data could reflect the withdrawal's rationalization for his withdrawal from college. This finding also supports previous speculations by Tinto (1975).

However, for the two-year college student, social integration was not significantly related to withdrawal behavior. The analyses on the contingency data (see Appendix E, Table E-12) failed to provide substantial evidence to show the relationship between SOCL and withdrawal for the two-year college student. As shown in Table VI-21, the chi-square of 45.60 ($p>.21$) for Model 2 indicated that social integration effect was not statistically significant. Students dissatisfied with social life on campus did not have a higher withdrawal rate than satisfied students. A possible explanation is that campus social life for two-year colleges is not an important part of campus life since many students live at home and commute to school.

c. Intellectual Integration

Tests of fit for the logistic model for the contingency data (see Appendix E, Table E-13) from the four-year college revealed that the classification on the response variable was a function of SES, aspiration, intellectual integration, and the interactions of intellectual integration with SES and aspiration (see Table VI-22). The interaction effects can be more easily seen in Tables VI-23 and VI-24. Withdrawals from middle or high SES (or aspiration) levels were more likely to be dissatisfied with intellectual development; however, withdrawals from low SES or aspiration levels were more likely to be satisfied with

Table VI-19

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND SOCIAL INTEGRATION (SOCL) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	805.06	45	<.01
2. Constant + SES + ASP	64.73	39	<.01
3. Constant + SES + ASP + SOCL	41.79	36	>.23

Table VI-20

OBSERVED WITHDRAWAL RATES BY SOCIAL INTEGRATION[1/]
(4-YEAR COLLEGE)

Faculty Quality	Academic Withdrawal	Nonacademic Withdrawal	Total Withdrawal
Satisfied	.10	.24	.34
Dissatisfied	.19	.24	.43

1/ After SES and educational aspiration were controlled.

Table VI-21

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND SOCIAL INTEGRATION (SOCL) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	294.87	45	<.01
2. Constant + SES + ASP	45.60	39	>.21
3. Constant + SES + ASP + SOCL	42.71	36	>.20

intellectual development, suggesting some other factors were contributing to withdrawal behavior even though the students were satisfied with their intellectual development.

For students from two-year colleges, the model is simpler; the interaction effects could be assumed null. As shown in Table VI-25, the model including the main effects of SES, aspiration, and intellectual development could sufficiently fit the data.

Further examination of the comparison between academic and nonacademic withdrawal revealed that the classification of these two withdrawal categories was dependent upon intellectual integration. A greater proportion of academic withdrawals than nonacademic withdrawals were students who were dissatisfied with their intellectual development. This held for both the four-year and two-year college students.

5. Financial Aid and Student Withdrawal

A frequently asked question about college withdrawal is whether providing adequate financial aid for low SES students is effective in reducing differences in withdrawal rates between lower SES students and higher SES students.

On the surface, one might suspect that providing low SES students with financial aid to meet their economic needs in college is sufficient to compensate for the effect of economic differences between the low SES students and other groups with respect to persistence. However, low SES students differ from non-low SES students in other aspects such as motivation, aspiration, and parental expectations (Astin, 1975c; Eckland, 1964b; Sewell & Shah, 1967). Many factors contribute to persistence at the college level, and meeting financial demands is merely one of several characteristics which comprise the low SES student's academic situation. "The greater dropout-proneness of students from low-income families is

Table VI-22

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND INTELLECTUAL INTEGRATION (INT) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	923.48	45	<.01
2. Constant + SES + ASP	146.21	39	<.01
3. Constant + SES + ASP + INT	91.77	36	<.01
4. Constant + SES + ASP + INT + (SES x ASP)	47.07	27	<.01
5. Constant + SES + ASP + INT + (SES x INT)	63.87	30	<.01
6. Constant + SES + ASP + INT + (SES x INT) + (ASP x INT)	42.71	24	>.01
7. Constant + SES + ASP + INT + (all two-way interactions)	13.34	12	>.34

Table VI-23

FOUR-YEAR COLLEGE WITHDRAWAL RATES
BY SES AND INTELLECTUAL INTEGRATION

SES	Intellectual Integration	
	Satisfied	Dissatisfied
Low	.41(.30)	.19(.11)
Middle	.39(.26)	.44(.20)
High	.27(.17)	.54(.19)

Note: 1. These numbers are averages across aspiration levels.

2. The numbers in the parentheses are nonacademic withdrawal rates; subtracting these numbers from those preceding them will yield the academic withdrawal rates of the corresponding subgroups.

Table VI-24

FOUR-YEAR COLLEGE WITHDRAWAL RATES
BY ASPIRATION AND INTELLECTUAL INTEGRATION

Aspiration	Intellectual Integration	
	Satisfied	Dissatisfied
< College	.63(.46)	.53(.35)
2-Year College	.36(.21)	.47(.07)
≥ 4-Year College	.09(.06)	.17(.08)

Note: 1. These numbers are averages across SES groups.

2. The numbers in the parentheses are nonacademic withdrawal rates; subtracting these numbers from those preceding them will yield the academic withdrawal rates of the corresponding subgroups.

Table VI-25

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND INTELLECTUAL INTEGRATION (INT) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES	361.44	45	<.01
2. Constant + SES + ASP	107.54	39	<.01
3. Constant + SES + ASP + INT	37.69	36	>.39

attributable to their less educated parents, lesser ability and lower motivation, and greater concern about finances" (Astin, 1975c, p.35). Family income has a relationship to dropping out, but that relationship probably will not be completely eradicated by countering economic need with financial aid. The factors contributing to dropping out among low SES students go beyond mere monetary need to precollege environmental and personality characteristics (Sewell & Shah, 1967). Such influences as expectations of parents, supportiveness of parents, and characteristics of high school education also impinge on a student's propensity for persistence in college work (Trent & Ruyle, 1965; Hackman & Dysinger, 1970; Nelson, 1972). One problem is to determine how these characteristics are related to SES levels. One might suspect that low SES students tend to have lower expectations and are less motivated to complete college due to environmental factors and precollege experiences. Thus, provision of adequate financial aid would not overcome these environmental effects, and would not necessarily bring the withdrawal rate of low SES students up to that of non-low SES students.

To test the above assumption, SES, educational aspirations, and financial aid status were employed to fit the persistence-withdrawal data.[2/] The varying financial aid programs are not considered separately, primarily because of the small sample size for each program. Instead, a gross categorization--either having at least one source of financial aid or having no source of financial aid at all--was used. Support from parents was not considered as financial aid support.

Financial aid was a significant variable in relation to withdrawal behavior from the four-year college; and, in fact, it interacted with SES and aspiration to bring forth differential relationships with withdrawal behavior. As shown in Table VI-26, not only financial aid status but also its interactions with SES and aspiration had to be retained in the model to fit the data properly. This relationship can be seen in Table VI-27. It shows that there was a slightly greater withdrawal rate among non-financial-aid recipients after SES and aspiration

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2/ The data base was the same as that used in the analyses of college experience and withdrawal.

were considered (37 percent versus 33 percent). The differences in withdrawal rate between recipients and nonrecipients of financial aid were greater at the low SES level than at the high SES level (7 versus 4 percentage points) after aspiration was considered, and they were greater at the high aspiration than the low aspiration level (5 versus 3 percentage points) after SES was considered. This seemed to suggest that financial aid may help students of low SES and high aspirations to persist in a four-year college.

Table VI-28 presents the tests of fit for the logistic model for contingency data classified by SES, aspiration, and financial aid for the two-year college (the data are included in Appendix E, Table E-16). Model 1 (i.e., constant + SES + ASP) indicated that the effect of financial aid and all interactions could be assumed null. This meant that after SES and aspiration were taken into account, financial aid was not related to withdrawal behavior at two-year colleges. Financial aid recipients did not have a higher persistence rate than nonrecipients in the two-year college.

C. Summary and Discussion

Log-linear model analysis was employed to examine the relationship between five classes of classification variables (i.e., predictors) and college persistence-withdrawal status. These variables were:

(1) Bio-social background (family socioeconomic status, sex, and race);

(2) Ability (high school grade and standardized test scores) and educational aspiration;

(3) High school curricular programs;

Table VI-26

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND FINANCIAL AID (FAID) WITH COLLEGE WITHDRAWAL (4-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES + ASP	127.11	39	<.01
2. Constant + SES + ASP + FAID	74.41	36	<.01
3. Constant + SES + ASP + FAID + (SES x ASP)	47.68	24	<.01
4. Constant + SES + ASP + FAID + (SES x ASP) + (SES x FAID)	35.99	18	<.01
5. Constant + SES + ASP + FAID + (SES x ASP) + (SES x FAID) + (ASP x FAID)	19.76	12	>.07

Table VI-27

TOTAL WITHDRAWAL RATE BY SES, ASPIRATION, AND FINANCIAL AID
(4-YEAR COLLEGE)

	Financial Aid[3]	
	No	Yes
SES[1]		
Low	.41(.30)	.34(.24)
Middle	.41(.28)	.40(.22)
High	.29(.18)	.25(.24)
Aspiration[2]		
< College	.63(.47)	.60(.44)
2-Year College	.35(.19)	.32(.21)
≥ 4-Year College	.13(.09)	.08(.05)

1/ The proportions were averages across aspiration levels.

2/ The proportions were averages across SES levels.

3/ The figures in the parentheses are nonacademic withdrawal rates; subtracting these figures from those preceding them will yield the academic withdrawal rates of the corresponding subgroups.

Table VI-28

TESTS OF FIT FOR THE LOGISTIC MODEL FOR THE ASSOCIATION OF SES, ASPIRATION (ASP), AND FINANCIAL AID (FAID) WITH COLLEGE WITHDRAWAL (2-YEAR COLLEGE)

Model	Pearsonian Residual Chi-Squares	d.f.	p
1. Constant + SES + ASP	56.01	39	>.03
2. Constant + SES + ASP + FAID	36.66	36	>.40
3. Constant + SES + ASP + FAID + (SES x ASP)	32.64	24	>.10

(4) Student perceptions about the quality of most faculty members, social life on campus, and intellectual development; and

(5) Financial aid.

To some extent, all these variables, except sex, were related to persistence behavior from four-year and two-year institutions. In general, SES had an inverse relationship with college withdrawal; that is, students from lower SES families had a higher withdrawal rate than students from higher SES families. However, when students' educational aspirations were considered, SES was related only to withdrawal from four-year colleges. This may be partly due to the fact that most of the two-year college students were from middle or lower SES families. This seemed to suggest that low SES students may be financially hampered in the four-year college since four-year colleges are more expensive. In fact, the findings relating to financial aid supported this. Financial aid was related to four-year college withdrawal after SES and aspiration were considered, and the relationship was stronger among low SES and high aspiring students. That is, low SES and high aspiring students with financial aid tended to have a higher persistence rate than their counterparts without financial aid.

The race effect on withdrawal behavior was particularly interesting. When race alone was considered, there were no substantial differences among blacks, Hispanics, and whites. However, when SES and sex were held constant, there were race "effects" for the four-year college students. More interestingly, the effects, as shown in Table VI-3 indicate that whites and blacks are more likely than Hispanics to withdraw from four-year colleges when other things are held constant.

In general, high school grades are more strongly related to withdrawal behavior than standardized test scores (see Table VI-7 and Table D-3 in Appendix D). This is consistent with previous findings that high school grade-point average is a better predictor for college academic performance than ability.

For both the four-year and two-year colleges, students from college preparatory programs had a greater persistence rate than those from non-college-preparatory programs, even after students' SES was held constant.

This seemed to suggest that students who enrolled in college preparatory programs in high school might be better prepared for college than students in other programs.

Educational aspiration, as measured by the respondent's indication of the level of education he or she would like to attain, was a strong predictor of withdrawal behavior even when SES and aptitude were controlled. This seemed to indicate that the more education a student wanted, the lower the probability of his/her withdrawing. This was applicable to both the two-year and the four-year college students.

The issue of educational aspiration is very closely related to that of motivation of college students to persist or not to persist. If students are not motivated, they will aspire to lower levels of education, and according to these results, they will have a higher probability of withdrawal. As early as 1962, Summerskill pointed out that motivation was a crucial variable in the study of the dropout process, but that this concept had not been well defined operationally. Spady (1970) agrees, citing other studies which substantiate this perspective. The issue is extremely complex and requires a comprehensive model which includes a number of personal and social variables--in particular, measures of need for achievement and affiliation (Spady, 1970). This study includes no explicit measures which would begin to tap in-depth motivational variables. However, the fact that high school grade is more predictive of college withdrawal than ability indicates the importance of motivation.

The postulated relationship between the degree of integration of the student with the college environment and withdrawal behavior was substantiated. When SES and aspiration were considered, a greater proportion of withdrawals than persisters were students dissatisfied with the quality of the faculty and with their own intellectual growth and development of skills. Student satisfaction with social life was, however, found to be related only to the withdrawal behavior of four-year college students. These findings seemed to support Tinto's (1975) concept that the degree of integration into both social and academic systems of an institution "influences" withdrawal behavior. However, it

should be noted that the data were collected after students had withdrawn; thus, the responses might be biased. In addition, the scale scores were derived from a single item. A better scale than the one used in the study would be required for making a strong inference.

The differentiation of academic withdrawals from nonacademic withdrawals was not particularly revealing; only two of the selected variables clearly showed relationships with these two response categories. These variables were high school grades and intellectual integration. This finding was somewhat expected because these variables were achievement-saturated variables, and college achievement was the criterion for the differentiation of the two withdrawal categories.

Referring to the conceptualization of the withdrawal process, as depicted in Figure VI-1, the data seemed to support that the model has captured many important variables in the process of withdrawing from college. The data have shown that, in order to describe the process, a great number of variables may have to be considered. In addition to those variables examined in this chapter, many additional variables as presented in Appendix C are of potential interest. However, the degree of predictability of college withdrawal is unlikely to be large even if a great number of predictors are used. As shown in Appendix D, the total variance of withdrawal behavior (i.e., R^2) that can be accounted for by a set of the 11 most important variables is about 13 percent for both four- and two-year college total withdrawals. This means that about 87 percent of the withdrawal behavior is related to other unknown variables.

The log-linear model analysis has not revealed many significant interaction effects of classification variables on withdrawal behavior. In general, college withdrawal is a simple function of the main effects of multiple variables. This finding certainly helps to simplify the conceptualization of the withdrawal process. That is, withdrawal behavior can be viewed as a result of cumulative effects of many individual variables.

VII. A DESCRIPTION OF WHAT HAPPENS TO WITHDRAWALS

Assisting young people outside of school is as important an element of public policy as helping them to stay in school. It is thus critical to follow-up those who withdraw from schools in order to find out what they are doing and what they plan to do in the near future. It would also be interesting to examine whether there are any changes in attitudinal characteristics, such as life goals, career choices, and other personality attributes, as a result of withdrawal. The analyses described in this chapter are addressed to these issues.

A. Further Education

Common questions concerning withdrawals are: Will they re-enter college? What are the perceived barriers to re-entrance?

The answer to the first question is that a significant proportion of withdrawals will eventually re-enter college and complete their education (Eckland, 1964a). The NLS data provide additional evidence to support this. Tables VII-1 and VII-2 show percentages who have re-entered college or who plan to for freshman and sophomore withdrawals respectively, and Table VII-3 gives the reasons why the continuing dropouts do not plan to re-enter postsecondary education. As shown in Table VII-1, of those who withdrew from four-year colleges at the end of their freshman year, about one-fourth did return to college a year later. Withdrawals from two-year colleges were less likely than those from four-year colleges to re-enter college within two years, particularly nonacademic withdrawals ($p<.01$). It is also shown in Table VII-1 that about one-fifth of four-year college withdrawals who had not re-entered college within two years were planning to do so in the following year. In summary, a substantial proportion of college withdrawals either re-entered school or planned to do so.

Table VII-1

PERCENTAGES OF FRESHMEN WITHDRAWALS RE-ENTERING OR PLANNING TO RE-ENTER COLLEGES

Withdrawal Category	Re-Entered College in 1974[1]	Planning to Re-Enter College in 1975[2]
Four-Year College Withdrawals		
Academic	23.16 (N=262)[3]	23.57 (N=200)
Nonacademic	32.63† (N=706)	20.38 (N=488)
Two-Year College Withdrawals		
Academic	17.89 (N=169)	12.42†† (N=143)
Nonacademic	18.24††† (N=693)	19.81 (N=562)

† Academic withdrawals significantly differed from nonacademic withdrawals ($|Z|>2.33$).

†† Four-year college academic withdrawals significantly differed from two-year college academic withdrawals ($|Z|>2.33$).

††† Four-year college nonacademic withdrawals significantly differed from two-year college nonacademic withdrawals ($|Z|>2.33$).

1/ Percent who withdrew for one year and then re-entered college.

2/ Percent who continued withdrawal status for a second year but who planned to re-enter the next year.

3/ N's are bases for the percentages.

The proportion of sophomore withdrawals (i.e., students who withdrew during or at the end of their sophomore year) for various withdrawal groups who planned to re-enter college a year later are presented in Table VII-2. Again, the data showed that a large proportion of withdrawals planned to continue college, particularly those who withdrew from four-year academic institutions.

Withdrawals who reported that they would not return for study were asked to indicate one or more reasons. The tabulations are summarized in Table VII-3 for various withdrawal groups. It can be seen that "could not afford it" was the most frequently indicated reason for all withdrawal groups except freshmen academic withdrawals from two-year colleges. Nonacademic withdrawals tended to be more likely than academic withdrawals to report financial reasons. "Had no time" was another frequently indicated reason for not returning for study by both academic and nonacademic withdrawals. A substantially greater proportion of academic withdrawals than nonacademic withdrawals indicated that they did not plan to re-enter because they were not qualified; however, the proportion of academic withdrawals giving this as a reason, which ranged from about 15 to 25 percent, was still much lower than would be expected from students who had academic problems. In general, the reported reasons for not re-entering college were similar for both academic and nonacademic withdrawals; they would not return primarily because of lack of money, time, and/or interest.

B. Employment Status

Another concern about withdrawals is their employment status after leaving school. Are they employed? If so, are they working part-time or full-time? Are they satisfied with their work? Tables VII-4 and VII-5 present data addressed to these questions.

Table VII-2

PERCENTAGES OF SOPHOMORE WITHDRAWALS WHO PLANNED TO CONTINUE COLLEGE A YEAR LATER

Withdrawal Category	Planning to Continue College	Sample N
Four-Year College Withdrawals		
Academic	54.94	92
Nonacademic	52.04	563
Two-Year College Withdrawals		
Academic	30.20*	45
Nonacademic	37.14*	360

*Two-year college withdrawals had a significantly lower percentage than four-year college withdrawals ($|Z|>2.33$, or $p<.01$).

Table VII-3

PERCENTAGE DISTRIBUTION OF CONTINUING WITHDRAWALS OVER SELF-REPORTED REASONS FOR NOT RETURNING TO COLLEGE

Reasons	Four-Year College				Two-Year College			
	Freshman		Sophomore		Freshman		Sophomore	
	A	NA	A	NA	A	NA	A	NA
1. Could not afford it	29.09	34.94	26.64	34.94	20.55	35.74*	26.22	32.93
2. Had low grade and were not qualified	13.73	3.11*	17.02	6.58	14.59	7.62	25.37	7.27
3. Colleges too far	7.33	6.31	3.91	3.88	6.51	5.23	8.59	5.27
4. Had no time	28.67	22.91	19.41	16.03	29.73	29.49	18.83	21.34
5. Could not get released from their jobs	22.39	13.73	7.20	10.16	23.62	16.42	12.36	7.24
6. They were not interested	19.48	13.77	10.16	11.82	23.91	17.25	22.67	15.01
Sample N	139	316	78	423	97	383	40	236

A = Academic Withdrawal

NA = Nonacademic Withdrawal

* NA significantly differed from A at the .01 level (a two-tailed test).

Table VII-4 presents the employment status for various college withdrawal groups in October 1974 (about two years after high school graduation). The data show that the majority of the withdrawals were employed. The late entrant withdrawals (i.e., students who entered college in the fall of 1973 and withdrew by October 1974) from four-year colleges had the lowest employment rate--72 percent for nonacademic withdrawals. The employment rate for those who had withdrawn from two-year colleges ranged from 79 to 83 percent across all categories. The rate for the four-year dropouts had more variation (71 to 84 percent) across the subgroups.

Table VII-4 also presents the percentage of withdrawals (both employed and unemployed) looking for work. About 6 percent of the high school class of 1972 were looking for work at this time; most of the withdrawal groups had a higher percentage looking for work than this, particularly the late entrant academic withdrawals from four-year colleges, of whom about 28 percent were looking for work. In all other categories, less than 11 percent reported that they were looking for work.

Of those who were employed in October 1974, the majority were working full-time; the percent working part-time varied from about 4 to 17 percent across the withdrawal groups (see Table VII-5). Nonacademic withdrawals from the four-year colleges tended to have a higher percentage working part-time (about 5 percent higher on the average) than academic withdrawals. Among the four withdrawal groups from two-year colleges, sophomore academic withdrawals had the highest percentage working part-time (16 percent as contrasted with 5 percent of freshman academic withdrawals).

Those employed were asked to indicate how satisfied they were with varying aspects of their job. As shown in Table VII-6, a significant percentage of withdrawals from the various withdrawal groups expressed

Table VII-4

PERCENTAGE OF WITHDRAWALS EMPLOYED AND
PERCENTAGE OF WITHDRAWALS LOOKING FOR WORK IN OCTOBER 1974

Withdrawal Category	Percentage		Sample N
	Employed	Looking for Work (Both Employed and Unemployed) 1/	
Four-Year College Withdrawals			
Freshmen Withdrawals			
Academic	84.10	7.59	200
Nonacademic	75.66	6.24	488
Sophomore Withdrawals			
Academic	85.81	9.85	92
Nonacademic	82.53	5.94	563
Late-Entrant Withdrawals			
Academic	70.74	28.13	21
Nonacademic	71.89	9.97	112
Two-Year College Withdrawals			
Freshmen Withdrawals			
Academic	83.38	8.54	143
Nonacademic	80.11	10.67	562
Sophomore Withdrawals			
Academic	78.66	9.67	45
Nonacademic	81.80	8.98	360
Late-Entrant Withdrawals			
Academic	80.52	10.27	16
Nonacademic	79.85	8.28	187

1/ The total population of the high school class of 1972 looking for work was about 6.18 percent.

Table VII-5

PERCENTAGE OF EMPLOYED WITHDRAWALS
WORKING PART-TIME OR FULL-TIME IN OCTOBER 1974

Withdrawal Category	Employment Status		Sample N
	Part-Time	Full-Time	
Four-Year College Withdrawals			
Freshmen Withdrawals			
Academic	5.80	94.20	170
Nonacademic	10.57	89.43	373
Sophomore Withdrawals			
Academic	12.62	87.38	77
Nonacademic	17.00	83.00	450
Late-Entrant Withdrawals			
Academic	3.58	96.42	14
Nonacademic	13.75	86.25	78
Two-Year College Withdrawals			
Freshmen Withdrawals			
Academic	5.33	94.67	119
Nonacademic	8.12	91.88	451
Sophomore Withdrawals			
Academic	16.16	83.84	34
Nonacademic	11.92	88.08	290
Late-Entrant Withdrawals			
Academic	15.77	84.23	13
Nonacademic	8.42	91.58	144

dissatisfaction with varying aspects of their jobs. They were particularly dissatisfied with the opportunities for promotion, advancement, and use of past training and education. Comparisons between those who withdrew and those who completed programs from two-year colleges only suggests (no differences were significant at the .01 level) that those who completed programs tended to be less dissatisfied with most aspects of their jobs than those who withdrew for various reasons. In particular, those individuals who completed a two-year degree were less dissatisfied with opportunities for promotion and advancement in their line of work and their use of past training. When data are available, the comparison between those who completed a four-year degree and those who withdrew from four-year colleges may further enhance the understanding of the job satisfaction of withdrawals. It should be noted that, although the percentages expressing dissatisfaction appear rather large (30 to 40 percent in some cases), there is a much greater proportion of employed withdrawals who, on the whole, express no dissatisfaction with most aspects of their jobs. There were no substantial differences in percentages reporting job satisfaction among the withdrawal categories, although there was a consistent tendency for nonacademic four-year college withdrawals to be more dissatisfied than two-year nonacademic withdrawals. Even though the differences were small, the four-year college withdrawals expressed more dissatisfaction for all 11 items.

C. Psychological Development

In addition to educational and occupational development, another concern about withdrawing from college is whether the process of withdrawing has any significant impact on psychological development. For some withdrawals, the process of leaving college without completion may be a frustrating experience, particularly if it is not voluntary. Such frustration could lead a person to certain behaviors, which would remove the frustrating block or overcome consequent inferiority feelings (see

Table VII-6

PERCENTAGE OF EMPLOYED WITHDRAWALS EXPRESSING DISSATISFACTION WITH VARYING ASPECTS OF THEIR JOB

	4-Year College		2-Year College		
	Withdrawal		Withdrawal		Receiving 2-Year Degree
	Academic	Nonacademic	Academic	Nonacademic	
1. Pay and fringe benefits	22.92	25.82	23.44	20.46	23.66
2. Importance and challenge	35.36	30.27	26.31	22.74	23.54
3. Working conditions	22.60	20.49	23.01	19.17	14.11
4. Opportunity for promotion and advancement with this employer	34.11	35.77	38.37	34.94	33.84
5. Opportunity for promotion and advancement in this line of work	36.55	34.04	33.53	33.36	26.10
6. Opportunity to use past training and education	44.64	38.65	38.12	34.07	25.95
7. Security and permanence	23.20	21.37	22.76	19.50	17.29
8. Supervisor(s)	23.99	18.36	13.82	17.68	15.24
9. Opportunity for developing new skills	31.45	30.77	27.18	28.05	22.84
10. Job as a whole	23.03	19.40	14.33	16.75	13.65
11. The pride and respect I receive from my family and friends by being in this line of work	19.01	17.76	8.8[illegible]	9.82	12.05
Sample N	164	344	109	403	244

Dollard, Doob, Miller, Mower & Sears, 1939). Furthermore, involuntary withdrawing may be considered a defeat by the academic system or a personal failure, both of which may influence the person's social interaction and self-concept (see McDavid & Harari, 1968, pp. 220-233). It is thus possible that withdrawing from college may have an impact on the individual's psychological development. Self-esteem may increase, for example, as a result of obtaining a job or it may decrease because of the stigma of failing to persist, locus of control might shift toward the externality pole of the dimension, or life goals which require a college degree may be changed to goals which do not require a degree, thereby removing frustration.

Four-item scales of both self-esteem and locus of control were used in the NLS study, as well as measures of work, community, and family life goals, each of the latter being measured by three items. The scale definitions, with group means and standard deviations at three points in time, are presented in Appendix F. The mean changes of the self-esteem and locus of control measures in 1973 and 1974 from the measures in 1972 expressed as a proportion of the pooled estimate (from the measures at three points in time) of the corresponding standard deviation are summarized in Table VII-7. On the locus of control scale, the nonacademic withdrawals from four-year colleges appeared to have moved more towards externality than either the academic or persister groups; none of the observed differences, however, were significant at the .01 level (i.e., $|Z|>2.33$). The observed difference between groups in the change of self-esteem was also negligible. Only the nonacademic withdrawals from four-year colleges appeared to have a slightly greater increase in self-esteem than persisters ($p<.01$). There was little evidence to indicate that the college withdrawal groups had a greater decline or increase than the persister groups in the measures of self-esteem and locus of control.

Life goals were measured by three scales: work, community, and family orientations. These scales were based upon the individuals'

Table VII-7

CHANGES IN SELF-ESTEEM AND LOCUS OF CONTROL
FOR CONTINUING WITHDRAWAL GROUPS

	Base-Year Mean	Pooled Standard Deviation	Change from Base-Year[1] 1973	Change from Base-Year[1] 1974	Sample N
SELF-ESTEEM					
Four-Year College					
Persisters	4.02	.65	+.32	+.42	2480
Academic Withdrawal	3.90	.65	+.22	+.42	143
Nonacademic Withdrawal	3.98	.68	+.47	+.65	359
Two-Year College					
Completion	3.94	.60	+.37	+.65	241
Academic Withdrawal	3.75	.68	+.41	+.69	103
Nonacademic Withdrawal	3.94	.65	+.48	+.62	433
LOCUS OF CONTROL[2]					
Four-Year College					
Persisters	4.04	.81	-.14	-.11	2479
Academic Withdrawal	3.74	.74	+.11	-.14	143
Nonacademic Withdrawal	3.88	1.11	-.16	-.25	358
Two-Year College					
Completion	3.91	.80	+.08	-.14	242
Academic Withdrawal	3.72	.78	-.04	-.15	103
Nonacademic Withdrawal	3.73	.96	-.09	-.05	432

1/ Mean change is expressed in terms of units of the pooled standard deviation based on the three corresponding measures.

2/ The sign "-" indicates an increase in externality.

ratings on a three-point scale of life goal items. The scale is further discussed in Appendix F. Table VII-9 summarizes the changes in terms of the unit of common standard deviation (i.e., pooled standard deviation over measures at three points in time). In general, withdrawal groups did not exhibit significantly greater changes in life goals than the comparison groups. Only the four-year college nonacademic withdrawals decreased more in work orientation than either persisters or academic withdrawals ($|Z|>2.33$, or $p<.01$). Also, the four-year college academic withdrawals increased their scores on family life goals more than persisters or nonacademic withdrawals. However, the mean ratings for these groups in 1974 were not different, suggesting that the withdrawal groups "caught up" with the persister group in emphasis on family goals over the two-year period (see Appendix F).

It is thus concluded that, while individuals in general change in self-esteem, locus of control, and life goals over the years, the college withdrawals did not show any deviation from the college persisters in the general trends for these variables. Withdrawing from college, either for academic or for nonacademic reasons, did not have significant impact on psychological development or life goals as measured in this study.

D. Discussion

It has been shown that a substantial proportion of withdrawals may eventually re-enter college or plan to re-enter college in the near future. To determine the actual proportion of individuals who enter college at some point in time and then withdraw without completion will require further analyses after these individuals have been tracked for several more years. When the NLS completes its third, fourth, and fifth follow-up surveys, a more complete data set may be available for the investigation of the re-entry process. At the present time, the study suggests that, to a large extent, withdrawals will return to college at some later time.

Table VII-8

CHANGES IN LIFE GOALS FOR CONTINUING WITHDRAWAL GROUPS

	Base-Year Mean	Pooled Standard Deviation	Change from Base-Year 1/		Sample N
			1973	1974	
WORK					
Four-Year College					
Persisters	2.48	.51	-.25	-.35	2478
Academic Withdrawal	2.50	.47	-.26	-.43	143
Nonacademic Withdrawal	2.50	.63	-.48	-.59	361
Two-Year College					
Completion	2.51	.48	-.21	-.42	241
Academic Withdrawal	2.58	.47	-.17	-.64	104
Nonacademic Withdrawal	2.52	.56	-.43	-.41	432
COMMUNITY					
Four-Year College					
Persisters	2.10	.55	-.33	-.40	2477
Academic Withdrawal	2.06	.49	-.22	-.37	143
Nonacademic Withdrawal	2.17	.64	-.47	-.50	360
Two-Year College					
Completion	2.08	.52	-.21	-.40	241
Academic Withdrawal	2.11	.54	-.35	-.57	104
Nonacademic Withdrawal	2.11	.57	-.40	-.44	432
FAMILY					
Four-Year College					
Persisters	2.28	.41	+.07	+.05	2477
Academic Withdrawal	2.13	.39	+.41	+.36	143
Nonacademic Withdrawal	2.22	.45	+.16	+.16	360
Two-Year College					
Completion	2.35	.39	.00	+.08	242
Academic Withdrawal	2.22	.44	+.16	+.16	104
Nonacademic Withdrawal	2.29	.46	+.07	+.13	432

1/ Mean change is expressed in terms of units of the pooled standard deviation based on the three corresponding measures.

A significant portion of the continuing withdrawals may be prevented from returning because of financial difficulties (see Table VII-3). NLS data showed that more persisters than withdrawals reported having financial aid. More nonacademic withdrawals than academic withdrawals reported finanical reasons as a barrier to re-entering college. Both groups, and especially the academic withdrawal group, might be using financial reasons as a rationalization for not re-entering college.

It has also been shown that most of the withdrawals are employed in full-time positions. A slightly higher proportion of them are looking for work than are the total sample members. Of those employed, the withdrawals from two-year schools were almost as satisfied with their jobs as those who had completed the two-year degree. This suggests that withdrawals may not be much different from others in regard to the level of job satisfaction.

As far as psychological change is concerned, the data do not suggest any strong impact resulting from withdrawing from college before completion.

The results seem to suggest that if an evaluation is going to be made about dropping out of college, a more comprehensive study designed for such purposes is needed. A simple inference that dropping out is "bad" may not be appropriate. In fact, withdrawal may have positive effects, either from the students' and/or the institutions' perspective. Sanford (1956) writes:

> . . . increased knowledge of the withdrawal phenomenon might, quite conceivably, lead to the conclusion that the college should have more rather than fewer dropouts; perhaps too many students were remaining in the college after they reached a level of maturity such that further growth could only be stimulated elsewhere; or perhaps the admission of more students of the type who tended to drop out would be a means for changing the college in some desired way.

Also, for the individual, withdrawal may be an adequate and satisfactory solution to his/her problems--whether academic, psychological, or social. In a more theoretical vein, Rootman (1972) considered that voluntary withdrawal, viewed as deviant behavior, may serve functional consequences,

"to maintain optimum performance, to provide a contrast to give the reward structure meaning, and to maintain the boundaries of the group." From his perspective, voluntary withdrawal is a solution to conflicts in person-role fit and interpersonal fit. A major study of male high school dropouts (Bachman, et al., 1971) comes to similar conclusions; they found little evidence that dropping out was "bad" for the individual. It was instead "a symptom, rather than a cause of new troubles or a cure for old ones" (p.183).

VIII. CONCLUSION AND IMPLICATIONS

The National Longitudinal Study of the High School Class of 1972 has provided a data base for an examination of students' college-going status over a period of two and one-half years since high school graduation. The longitudinal nature of the data, and the involvement of about 10,000 sample students initially enrolled in about 1,800 diverse institutions of higher education, allow this study to address many unanawered questions regarding college withdrawals. In addition, a refined definition of withdrawals and a careful conceptualization of the withdrawal process also help to make this study an improvement over many previous studies.

Withdrawals were first classified into academic and nonacademic categories and separated by institutional type (i.e., four-year versus two-year and public versus private). Wherever necessary, the withdrawals were also defined by the year of withdrawal (i.e., withdrawing during or at the end of the freshman or the sophomore year). In addition, freshman withdrawals can be further classified into temporary (i.e., stopouts) or continuous on the basis of a two-year span. These refined classifications of college withdrawals have provided a sound basis for estimating the extent of college withdrawals and understanding the withdrawal process. The various withdrawal groups have been shown by the analyses to be quite different with respect to their backgrounds and reasons for withdrawal; to understand and help withdrawals, one must adopt a variety of approaches. For example, the data have shown that a greater proportion of academic withdrawals than nonacademic withdrawals were unsure about what they wanted to do (see Table V-2) and thus have a greater need for career counseling services.

Many previous findings were not supported by this study. In particular, the overall withdrawal rate seemed to be lower than what Summerskill (1962) and Astin (1975) documented (see Chapter IV, Section C). The data also failed to reveal any substantial differences in withdrawal rates between men and women students. Minority group members also did not have a greater withdrawal rate than whites. In fact, when SES or

other variables were controlled, white students tended to have a higher withdrawal rate than Hispanic students. This is a particularly positive finding in respect to the equality of educational opportunity regarding sex and race differences.

Withdrawal is a complex longitudinal process. Many current withdrawals may eventually return for study, while many more students may withdraw before completion. A complete picture of the subgroup differences--and the effects of withdrawal--will require more longitudinal data covering a period much longer than available to this study. The future NLS follow-up surveys will certainly be valuable in this respect.

Family background as measured by socioeconomic index (SES) was an important variable associated with college withdrawals, particularly withdrawals from four-year colleges; that is, relatively more low SES students than high SES students withdraw before completing an educational program. This association held for four-year college students even after ability measures were controlled (see Appendix D, Table D-3). These SES differences are consistent with previous findings (Tinto, 1975; Sewell & Shah, 1967).

While SES predicts withdrawals, it provides no indications for possible intervention strategies, except that perhaps the lower and middle SES groups should be studied more closely in developing intervention policies than the higher SES group. As Summerskill (1962) suggests, the important question is to identify the subcultural patterns and specific background characteristics that are both manipulable and related to the withdrawal-persistence patterns. It is of interest to examine why, for example, the lower SES group members had lower educational aspirations which, in turn, influenced their academic performance and thus affected access to college and educational persistence.

Concerning intervention, financial aid programs seemed to be helpful to many students. Financial difficulty was reported as a major reason for withdrawal (see Chapter V). The analyses presented in Chapter VI suggested that financial aid helped to increase the college persistence of low SES students and high aspiration students in four-year colleges. Assuming that student reports point to the true indication

of the magnitude of financial difficulties, an appropriate target for institutional financial aid might be highly aspiring but financially needy students.

The impact of financial aid, however, cannot be adequately estimated on the basis of analysis of this survey data. The next step would be to follow-up these findings with better controlled studies. For example, one may identify a group of 300 freshmen in similar institutions, who have similar backgrounds and financial problems and then randomly render special grants to half of them. The measures of persistence and perhaps college grade-point average of those financial-aid recipients and control individuals in the following years may then be used to assess the effectiveness of financial aid. The selection of already-enrolled students may help the study to include primarily college-aspired individuals and to separate the problem of college access from college persistence. The results of this kind of study will be more accurate in assessing the impact of financial aid than those of survey studies using statistical control for extraneous variables.

Withdrawal may be largely a motivational problem. The data have indicated that students of low educational aspiration were much more likely to withdraw than those of high aspiration (see Chapter VI). The data also indicated that a great proportion of withdrawals were due to a lack of clear plans (i.e., unsure what they wanted to do) and an inability to relate the value of college education to what is seen as the real world (see Chapter V). These findings define a need for student counseling. If students don't know what they want to do, if they don't see the relevancy of their school work, or if they don't even aspire to complete college, then somewhere along the line they have been inappropriately led or counseled into college. Consequently, their motivation for studying or persisting is low, and dropping out is very likely. Counseling needs to begin in high school. Students need to be helped to discover their aspirations, needs, and skills, and explore various alternatives. Future alternatives should not be closed out to them because of inappropriate or absence of counseling. Perhaps some individuals need a couple of years at work to develop responsibility and direction regarding

educational and vocational plans. For some college students, stopping out may be necessary in order to clarify changes in direction for the student. Our society should facilitate these nontraditional approaches to educational and career development.

College experience seemed to be an important factor in the withdrawal process after controlling for student background characteristics. Relatively more withdrawals than persisters reported dissatisfaction with the quality of the faculty and their intellectual development. This could to some extent reflect the incongruency between the student's expectation and the actual college environment. When colleges fail to provide what the student needs, it is conceivable that the student may express dissatisfaction and seek withdrawal as a means to cope with this dissatisfaction. Encouraging feedback from the student body regarding the college environment may help administrators improve the quality of their institutions. Student ratings of faculty members, for example, could be a positive measure in identifying instructional weaknesses. On the other hand, the incongruency may be due to the student's unrealistic expectations. To reduce such incongruency, high schools should provide more in-depth opportunities for certain students to interact with representatives from colleges and the world of work.

The NLS data have also shown that, in addition to SES, aspiration, and college experience, many other factors such as high school program, high school grade, and family responsibility are potentially important in the college withdrawal process. It is possible that the combined measurements of these variables can provide a reasonable prediction of college persistence, and thus may provide a basis for adopting certain recruitment procedures to admit students who are most likely to succeed. However, it would be more appropriate to use this prediction information to identify potential weaknesses of individuals or institutions such that correctional or interventional steps can be taken. For example, institutions may try to help high ability students who are now restricted in outlook and lack of aspiration for college education, or try to assist individuals who are not adequately prepared in the high school but are highly motivated for college education.

Concerns for the occupational and personal development of withdrawals are always legitimate. However, the analyses as presented in Chapter VII have not provided substantial evidence to suggest damaging effects resulting from withdrawal. While many withdrawals may have to delay or prolong their college education, withdrawing has little to do with changes in their psychological attributes. To many withdrawals, particularly those who have little desire to remain in the program, leaving college before completion may be positive, and should not be viewed as deviant behavior.

As far as policy-making is concerned, theoretical modeling of the withdrawal process--at least the testing and refinement of a model--is not very useful unless it offers some solutions for the problem. For example, it is of little use to policy-makers to know that students whose fathers are laborers have higher dropout rates than those whose fathers are life insurance salesmen, particularly if such a finding is based on a regression analysis with a large number of predictor variables. What seems to be needed in future studies is to discover those manipulable variables which affect college persistence. Financial aid and student counseling, as mentioned previously, are good examples of manipulable variables. More knowledge about effective intervention techniques designed to faciliate appropriate behavior--whether it be entering, completing, or leaving college--is needed.

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Appendix A

Percentages of Students in Each College-Going Status Measured at Three Points in Time

Table A-1

PERCENTAGE DISTRIBUTION OF STUDENTS IN THE COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: FOUR-YEAR COLLEGE STUDENTS

College-Going Status			Percentage[1]	Estimated Population	Sample N
1972	1973	1974			
Four-Year[2] College	→ Persisters	→ Persisters	55.63	495971	3319
		Transfers			
		Four-year	6.47	57634	398
		Two-year	0.95	8490	65
		Dropouts			
		Academic	1.39	12374	75
		Nonacademic	7.77	69289	492
	→ Transfers (four-year)	→ Persisters	5.27	46950	308
		Transfers			
		Four-year	1.14	10121	72
		Two-year	0.20	1781	10
		Dropouts			
		Academic	0.28	2488	17
		Nonacademic	1.23	10973	71
	→ Transfers (two-year)	→ Persisters	1.04	9252	62
		Transfers			
		Four-year	0.87	7741	49
		Two-year	0.17	1488	8
		Dropouts			
		Academic	0.19	1658	10
		Nonacademic	0.61	5431	37
		Completion	0.28	2503	13
	→ Academic Dropout	→ Re-entry			
		Four-year	0.84	7448	48
		Two-year	0.23	2031	14
		Continue dropping out	3.55	31613	200
	→ Nonacademic Dropout	→ Re-entry			
		Four-year	3.31	29512	188
		Two-year	0.57	5106	30
		Continue dropping out	8.01	71426	488

[1] Based upon the total number of four-year college attendants in 1972 (total sample N = 5974).

[2] This comprises 29.40 percent of the high school class of 1972.

Table A-2

PERCENTAGE DISTRIBUTION OF STUDENTS IN THE COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: TWO-YEAR COLLEGE STUDENTS

College-Going Status			Percentage[1]	Estimated Population	Sample N
1972	1973	1976			
Two-Year[2] College	→ Persisters	→ Persisters	16.66	73375	495
		Transfers			
		Four-year	17.40	76635	515
		Two-year	0.91	4011	30
		Completion	11.81	52024	320
		Dropouts			
		Academic	1.46	6430	44
		Nonacademic	11.06	48698	329
	→ Transfers (two-year)	→ Persisters	1.09	4792	32
		Transfers			
		Four-year	0.68	3007	23
		Two-year	0.32	1402	11
		Completion	0.34	1485	12
		Dropouts			
		Academic	0.03	120	1
		Nonacademic	0.86	3781	31
	→ Transfers (four-year)	→ Persisters	4.06	17868	115
		Transfers			
		Four-year	0.65	2884	20
		Two-year	0.37	1628	10
		Dropouts			
		Academic	0.08	355	2
		Nonacademic	1.01	4433	30
	→ Academic Dropout	→ Re-entry			
		Four-year	0.17	728	4
		Two-year	0.88	3885	22
		Continue dropping out	4.82	21208	143
	→ Nonacademic Dropout	→ Re-entry			
		Four-year	1.33	5870	43
		Two-year	3.10	13635	88
		Continue dropping out	19.80	87431	562
	→ Completion	→ Re-entry			
		Four-year	0.07	288	2
		Two-year	0.07	321	3
		Noncollege	0.91	3993	31

[1] Based upon the total number of two-year college attendents in 1972 (total sample N = 2916).

[2] This comprises 14.56 percent of the high school class of 1972.

Table A-3

PERCENTAGE DISTRIBUTION OF STUDENTS IN THE COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: LATE ENTRANTS TO FOUR-YEAR COLLEGES

College-Going Status			Percentage[1]	Estimated Population	Sample N
1972	1973	1974			
Noncollege →	Four-Year[2] College →	Persisters	58.78	37884	236
		Transfers			
		Four-year	7.66	4935	36
		Two-year	3.38	2177	15
		Dropouts			
		Academic	3.56	2293	21
		Nonacademic	26.63	17160	112

1/ Based upon the total number of the high school class of 1972 who entered a four-year college in October 1973 (total sample N = 420).

2/ This comprises 2.23 percent of the high school class of 1972.

Table A-4

PERCENTAGE DISTRIBUTION OF STUDENTS IN THE COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: LATE ENTRANTS TO TWO-YEAR COLLEGES

College-Going Status			Percentage[1]	Estimated Population	Sample N
1972	1973	1974			
Noncollege →	Two-Year College[2] →	Persisters	40.07	29262	184
		Transfers			
		Four-year	5.64	4119	32
		Two-year	5.32	3886	23
		Completion	8.61	6287	37
		Dropouts			
		Academic	3.61	2638	16
		Nonacademic	36.74	26831	187

1/ Based upon the total number of the high school class of 1972 who entered a two-year college in October 1973 (total sample N = 479).

2/ This comprises 2.40 percent of the high school class of 1972.

Appendix B

Percentages of Students in Each College-Going Status Measured at Three Points in Time: By Race, Sex, and Socioeconomic Background

Table B-1

PERCENTAGE DISTRIBUTIONS OF MALES IN THE FOUR-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Four-Year College	→ Persisters	→ Persisters	63.18	48.39	47.58	70.93	56.71
		Transfers					
		Four-year	8.59	5.71	8.88	4.84	5.33
		Two-year	0.00	1.47	0.00	5.07	0.94
		Dropouts					
		Academic	2.62	1.17	3.13	2.69	1.46
		Nonacademic	6.14	12.51	6.04	4.18	7.51
	→ Transfers (four-year)	→ Persisters	0.00	4.27	1.86	0.00	5.85
		Transfers					
		Four-year	0.00	0.00	0.00	0.00	0.91
		Two-year	0.00	0.00	1.84	0.00	0.06
		Dropouts					
		Academic	0.00	1.12	0.00	0.00	0.42
		Nonacademic	0.00	0.25	0.00	0.00	1.09
	→ Transfers (two-year)	→ Persisters	0.00	1.77	3.26	2.20	1.15
		Transfers					
		Four-year	0.00	0.31	0.00	1.94	0.93
		Two-year	0.00	0.00	0.00	0.00	0.17
		Dropouts					
		Academic	0.00	0.25	0.00	0.00	0.17
		Nonacademic	0.00	0.22	1.13	1.65	0.58
		Completion	0.00	0.51	0.00	0.00	0.42
	→ Academic Dropout	→ Re-entry					
		Four-year	0.00	1.68	7.95	1.55	1.10
		Two-year	0.00	0.27	0.00	0.00	0.37
		Continue dropping out	0.00	2.52	1.95	0.00	4.37
	→ Nonacademic Dropout	→ Re-entry					
		Four-year	0.00	8.60	0.77	3.11	3.19
		Two-year	10.83	0.31	0.00	0.00	0.49
		Continue dropping out	8.63	8.69	15.60	1.85	6.80

Table B-2

PERCENTAGE DISTRIBUTIONS OF MALES IN THE TWO-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status				Indian	Black	Hispanic	Oriental	White
1972	1973		1974					
Two-Year College	→ Persisters	→	Persisters	18.07	12.67	31.63	43.63	16.95
			Transfers					
			Four-Year	0.00	9.39	7.53	19.42	19.53
			Two-Year	0.00	0.88	3.90	1.36	0.77
			Completion	3.50	12.49	5.23	1.79	10.00
			Dropouts					
			Academic	10.05	1.72	2.17	7.54	1.23
			Nonacademic	14.79	19.26	13.09	9.48	10.80
	→ Transfers (two-year)	→	Persisters	0.00	1.48	0.00	0.00	1.42
			Transfers					
			Four-year	0.00	0.41	0.81	0.00	0.59
			Two-year	0.00	0.55	0.00	2.37	0.03
			Completion	0.00	0.00	0.00	0.00	0.18
			Dropouts					
			Academic	0.00	0.00	0.00	0.00	0.06
			Nonacademic	8.41	2.02	0.00	0.00	0.94
	→ Transfers (four-year)	→	Persisters	4.16	4.40	0.91	4.10	4.48
			Transfers					
			Four-year	0.00	0.00	0.00	0.00	0.71
			Two-year	0.00	0.00	0.00	0.00	0.21
			Dropouts					
			Academic	0.00	0.00	0.00	0.00	0.11
			Nonacademic	2.97	0.73	3.14	0.00	0.76
	→ Academic Dropout	→	Re-entry					
			Four-year	0.00	0.00	0.00	0.00	0.11
			Two-year	3.59	0.64	0.00	3.23	1.26
			Continue dropping out	16.08	4.59	11.90	1.53	5.41
	→ Nonacademic Dropout	→	Re-entry					
			Four-year	0.00	1.80	1.26	0.00	1.51
			Two-year	0.00	0.37	2.00	1.72	3.12
			Continue dropping out	18.38	25.44	16.44	3.84	19.30
	→ Completion	→	Re-entry					
			Four-year	0.00	0.00	0.00	0.00	0.08
			Two-year	0.00	0.00	0.00	0.00	0.03
			Noncollege	0.00	1.14	0.00	0.00	0.42

Table B-3

PERCENTAGE DISTRIBUTIONS OF MALES IN THE COLLEGE-GOING STATUS OF LATE FOUR-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Noncollege →	Four-Year College →	Persisters	100.00	62.62	73.43	0.00	61.01
		Transfers					
		Four-year	0.00	5.18	0.00	100.00	9.93
		Two-year	0.00	2.74	0.00	0.00	3.11
		Dropouts					
		Academic	0.00	12.47	0.00	0.00	3.15
		Nonacademic	0.00	17.00	26.57	0.00	22.80

Table B-4

PERCENTAGE DISTRIBUTIONS OF MALES IN THE COLLEGE-GOING STATUS OF LATE TWO-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Noncollege →	Two-Year College →	Persisters	34.98	41.54	33.00	0.00	41.44
		Transfers					
		Four-year	0.00	0.00	9.61	0.00	4.62
		Two-year	0.00	6.81	0.00	0.00	8.10
		Completion	0.00	0.00	6.96	81.55	6.56
		Dropouts					
		Academic	0.00	5.89	0.00	0.00	3.78
		Nonacademic	65.02	45.75	50.43	18.45	35.50

Table B-5

PERCENTAGE DISTRIBUTIONS OF FEMALES IN THE FOUR-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Four-Year College →	Persisters →	Persisters	34.17	58.12	47.12	69.98	54.56
		Transfers					
		Four-year	5.10	4.11	9.58	5.92	8.04
		Two-year	5.38	0.86	8.06	0.00	0.61
		Dropouts					
		Academic	0.00	3.01	1.16	0.00	1.01
		Nonacademic	7.52	6.46	10.97	10.97	7.86
	→ Transfers (four-year) →	Persisters	0.00	3.46	0.00	5.62	5.44
		Transfers					
		Four-year	0.00	0.42	1.18	0.00	1.66
		Two-year	0.00	0.16	3.43	0.00	0.29
		Dropouts					
		Academic	0.00	0.42	0.00	0.00	0.06
		Nonacademic	0.00	1.54	0.00	0.00	1.60
	→ Transfers (two-year) →	Persisters	0.00	1.28	0.00	3.72	0.67
		Transfers					
		Four-year	15.58	0.57	0.00	0.00	0.89
		Two-year	0.00	0.30	2.07	0.00	0.08
		Dropouts					
		Academic	10.97	0.24	0.00	0.00	0.16
		Nonacademic	0.00	0.35	0.69	0.00	0.72
		Completion	0.00	0.45	0.00	0.00	0.12
	→ Academic Dropout →	Re-entry					
		Four-year	0.00	0.24	0.00	0.00	0.38
		Two-year	0.00	0.00	0.00	0.00	0.12
		Continue dropping out	0.00	3.41	3.73	0.00	2.80
	→ Nonacademic Dropout →	Re-entry					
		Four-year	0.00	4.02	7.00	0.00	3.04
		Two-year	0.00	0.19	0.00	0.00	0.74
		Continue dropping out	21.28	10.40	5.01	3.97	9.15

Table B-6

PERCENTAGE DISTRIBUTIONS OF FEMALES IN THE TWO-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Two-Year College	→ Persisters	→ Persisters	0.00	20.30	24.82	19.64	13.55
		Transfers					
		Four-year	17.76	15.63	2.06	35.53	17.80
		Two-year	0.00	0.76	4.07	0.00	0.77
		Completion	9.51	8.59	4.23	0.00	15.99
		Dropouts					
		Academic	0.00	5.63	2.37	5.18	0.79
		Nonacademic	4.54	13.21	16.51	4.40	9.99
	→ Transfers (two-year)	→ Persisters	0.00	0.00	1.89	3.45	0.88
		Transfers					
		Four-year	0.00	0.74	0.00	0.00	0.69
		Two-year	0.00	0.00	1.96	0.00	0.53
		Completion	0.00	1.39	3.67	0.00	0.33
		Dropouts					
		Academic	0.00	0.00	0.00	0.00	0.00
		Nonacademic	0.00	0.77	1.73	0.00	0.67
	→ Transfers (four-year)	→ Persisters	0.00	1.38	5.07	13.19	3.98
		Transfers					
		Four-year	0.00	0.00	0.00	0.00	0.88
		Two-year	0.00	0.44	0.00	0.00	0.50
		Dropouts					
		Academic	0.00	0.00	0.00	0.00	0.00
		Nonacademic	9.75	2.51	0.73	2.12	0.96
	→ Academic Dropout	→ Re-entry					
		Four-year	0.00	0.33	0.00	0.00	0.27
		Two-year	0.00	0.61	1.00	0.00	0.53
		Continue dropping out	9.85	2.67	3.78	0.00	3.89
	→ Nonacademic Dropout	→ Re-entry					
		Four-year	0.00	1.78	0.00	0.00	1.29
		Two-year	12.89	4.53	5.76	7.49	3.01
		Continue dropping out	35.71	18.26	19.44	9.02	21.09
	→ Completion	→ Re-entry					
		Four-year	0.00	0.00	0.00	0.00	0.07
		Two-year	0.00	0.00	0.00	0.00	0.15
		Noncollege	0.00	0.47	0.88	0.00	1.37

Table B-7

PERCENTAGE DISTRIBUTIONS OF FEMALES IN THE COLLEGE-GOING STATUS OF LATE FOUR-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Noncollege →	Four-Year College →	Persisters	0.00	49.58	3.66	100.00	56.86
		Transfers					
		Four-year	100.00	0.00	0.00	0.00	5.92
		Two-year	0.00	5.66	6.34	0.00	3.59
		Dropouts					
		Academic	0.00	3.16	0.00	0.00	3.25
		Nonacademic	0.00	41.60	0.00	0.00	30.38

Table B-8

PERCENTAGE DISTRIBUTIONS OF FEMALES IN THE COLLEGE-GOING STATUS OF LATE TWO-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY RACE

College-Going Status			Indian	Black	Hispanic	Oriental	White
1972	1973	1974					
Noncollege →	Two-Year College →	Persisters	70.51	40.57	49.30	0.00	37.78
		Transfers					
		Four-year	0.00	5.88	0.00	0.00	8.34
		Two-year	0.00	3.26	9.45	0.00	2.09
		Completion	0.00	4.04	3.45	100.00	11.00
		Dropouts					
		Academic	0.00	1.77	0.00	0.00	3.47
		Nonacademic	29.49	44.48	37.80	0.00	37.32

Table B-9

PERCENTAGE DISTRIBUTIONS OF STUDENTS IN THE FOUR-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY SES

College-Going Status			Low	Middle	High
1972	1973	1974			
Four-Year College	→ Persisters	→ Persisters	49.66	52.83	59.67
		Transfers			
		Four-year	5.79	6.34	6.76
		Two-year	1.28	0.83	0.98
		Dropouts			
		Academic	1.89	1.24	1.39
		Nonacademic	10.40	8.50	6.43
	→ Transfers (four-year)	→ Persisters	3.51	5.06	5.92
		Transfers			
		Four-year	0.25	1.03	1.46
		Two-year	0.22	0.12	0.26
		Dropouts			
		Academic	0.12	0.29	0.31
		Nonacademic	0.62	1.54	1.11
	→ Transfers (two-year)	→ Persisters	0.55	1.37	0.87
		Transfers			
		Four-year	0.55	0.63	1.17
		Two-year	0.16	0.09	0.23
		Dropouts			
		Academic	0.26	0.14	0.21
		Nonacademic	1.05	0.54	0.56
		Completion	0.34	0.36	0.19
	→ Academic Dropout	→ Re-entry			
		Four-year	0.63	0.75	0.96
		Two-year	0.00	0.18	0.33
		Continue dropping out	6.25	4.20	2.27
	→ Nonacademic Dropout	→ Re-entry			
		Four-year	4.98	2.94	3.22
		Two-year	0.19	0.89	0.39
		Continue dropping out	11.29	10.13	5.29

Table B-10

PERCENTAGE DISTRIBUTIONS OF STUDENTS IN THE TWO-YEAR COLLEGE-GOING STATUS OVER A THREE-YEAR SPAN: BY SES

College-Going Status			Low	Middle	High
1972	1973	1974			
Two-Year College	→ Persisters	→ Persisters	17.81	16.40	16.47
		→ Transfers			
		Four-year	10.82	17.46	21.10
		Two-year	1.37	0.96	0.57
		Completion	11.49	13.23	9.40
		Dropouts			
		Academic	2.46	1.16	1.37
		Nonacademic	13.06	10.78	10.55
	→ Transfers (two-year)	→ Persisters	0.79	0.75	1.88
		Transfers			
		Four-year	1.05	0.53	0.77
		Two-year	0.25	0.28	0.43
		Completion	0.45	0.37	0.22
		Dropouts			
		Academic	0.00	0.00	0.09
		Nonacademic	0.68	0.79	1.02
	→ Transfers (four-year)	→ Persisters	2.09	3.13	6.88
		Transfers			
		Four-year	0.31	0.63	0.90
		Two-year	0.10	0.31	0.64
		Dropouts			
		Academic	0.00	0.06	0.16
		Nonacademic	1.56	0.62	1.41
	→ Academic Dropout	→ Re-entry			
		Four-year	0.35	0.00	0.36
		Two-year	0.60	0.71	1.37
		Continue dropping out	4.53	6.06	2.76
	→ Nonacademic Dropout	→ Re-entry			
		Four-year	1.40	0.98	1.95
		Two-year	2.73	3.21	3.08
		Continue dropping out	24.38	20.47	16.07
	→ Completion	→ Re-entry			
		Four-year	0.22	0.05	0.00
		Two-year	0.00	0.03	0.20
		Noncollege	1.50	1.02	0.37

Table B-11

PERCENTAGE DISTRIBUTIONS OF STUDENTS IN THE COLLEGE-GOING STATUS OF LATE FOUR-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY SES

College-Going Status			Low	Middle	High
1972	1973	1974			
Noncollege →	Four-Year College →	Persisters	49.02	56.69	66.46
		Transfers			
		Four-year	4.52	8.33	7.90
		Two-year	6.61	2.80	2.51
		Dropouts			
		Academic	5.73	4.40	1.58
		Nonacademic	34.13	27.78	21.56

Table B-12

PERCENTAGE DISTRIBUTIONS OF STUDENTS IN THE COLLEGE-GOING STATUS OF LATE TWO-YEAR COLLEGE ENTRANTS OVER A THREE-YEAR SPAN: BY SES

College-Going Status			Low	Middle	High
1972	1973	1974			
Noncollege →	Two-Year College →	Persisters	36.01	38.29	46.90
		Transfers			
		Four-year	1.80	5.55	8.46
		Two-year	1.92	5.36	7.55
		Completion	14.10	7.65	7.25
		Dropouts			
		Academic	5.93	4.14	0.88
		Nonacademic	40.24	39.00	28.96

Appendix C

Additional Subgroup Withdrawal Rates

Table C-1

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY FATHER'S EDUCATION LEVEL[1/]

Father's Education	Four-Year College Withdrawal			Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
< High School	20.11	(6.03	14.08)	1168	33.77	(6.71	27.06)	830
High School	20.35	(5.73	14.62)	1561	28.89	(4.87	24.02)	945
Some College	15.18	(3.61	11.57)	1278	30.43	(7.40	23.03)	635
Finish 4-Year College	15.00	(4.68	10.32)	1018	30.55	(6.07	24.48)	278
Graduate Degree	10.10	(2.63	7.47)	942	22.10	(2.73	19.37)	218

1/ Proportion of students who entered college in the fall of 1972 and then withdrew by the fall of 1973.

Table C-2

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY RELIGION[1/]

Religion	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
Protestant	16.52	(4.58	11.94)	2613	28.93	(4.49	24.44)	1100
Catholic	15.35	(5.12	10.77)	1608	32.15	(7.37	24.78)	861
Other Christian	22.42	(4.60	17.82)	667	37.15	(5.78	31.37)	411
Jewish	6.97	(2.63	4.34)	276	16.05	(8.28	7.77)	65
Other	26.49	(6.18	20.31)	117	15.91	(4.52	11.39)	93
None	15.55	(4.62	10.93)	198	28.32	(6.44	21.88)	132

1/ Proportion of students who entered college in the fall of 1972 and then withdrew by the fall of 1973.

Table C-3

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY PERCENT OF MINORITY MEMBERS IN HIGH SCHOOL WHERE GRADUATED

Percent Minority in high school	Four-Year College Withdrawal			Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
< 5%	15.59	(4.07	11.52)	2061	29.56	(5.78	23.78)	894
5 - 9%	13.78	(3.90	9.88)	513	32.30	(7.09	25.21)	355
10 - 19%	20.17	(4.70	15.47)	662	29.07	(5.63	23.44)	363
20 - 39%	17.00	(4.89	12.11)	1146	29.25	(6.26	22.99)	681
40 - 59%	18.95	(6.00	12.95)	405	26.06	(5.49	20.57)	232
60 - 79%	19.93	(7.30	12.63)	199	26.95	(6.36	20.59)	80
> 80%	17.39	(4.90	12.49)	292	35.06	(3.67	31.39)	133

1/ Proportion of students who entered college in the fall of 1972 and then withdrew by the fall of 1973.

Table C-4

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY REGION OF THE HIGH SCHOOL WHERE GRADUATED[1/]

Region	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
Northeast	13.38	(3.99	9.39)	1437	26.89	(5.07	21.82)	529
North Central	18.27	(5.37	12.90)	1623	31.08	(5.10	25.98)	574
South	17.61	(5.27	12.34)	2113	29.12	(5.88	23.24)	898
West	16.98	(2.85	14.13)	801	32.62	(7.01	25.61)	917

1/ Proportion of students who entered college in the fall of 1972 and then withdrew by the fall of 1973.

Table C-5

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY BIRTH ORDER [1/]

Birth Order	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
First Born	14.49	(5.29	9.20)	1627	31.98	(6.62	25.36)	736
Second Born	14.18	(3.43	10.75)	1582	27.77	(6.63	21.14)	698
Later Born	18.87	(5.14	13.73)	1784	32.58	(5.43	27.15)	943

1/ Proportion of students who entered college in the fall of 1972 and then withdrew by the fall of 1973.

Table C-6

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY FULL- OR PART-TIME STUDY (1972)[1/]

Study Time[2/]	Four-Year College Withdrawal			Two-Year College Withdrawal		
	Total	(Acad. Nonacad.)	Sample N	Total	(Acad. Nonacad.)	Sample N
Full-Time	16.10	(4.59 11.51)	5857	27.67	(5.48 22.19)	2595
Part-Time	34.75	(6.48 28.27)	113	48.31	(9.14 39.17)	315

1/ Proportion of individuals who entered college in the fall of 1972 and withdrew by the fall of 1973.

2/ Full-time study status requires 12 or more total credit hours per week.

Table C-7

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY FULL- OR PART-TIME WORK/NOT WORKING (1972)[1/]

Work Time [2/]	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
Full-Time	39.44	(9.08	30.36)	913	49.52	(8.33	41.19)	918
Part-Time	17.16	(4.36	12.80)	1766	26.13	(5.16	20.97)	993
Not Working	14.89	(4.36	10.53)	3282	27.81	(5.77	22.04)	994

1/ Proportion of individuals who entered college in the fall of 1972 and withdrew by the fall of 1973.

2/ Full-time work status requires 35 or more hours of work per week.

Table C-8

FRESHMAN WITHDRAWAL RATES (IN PERCENT) BY FIELD OF STUDY (1972)[1/]

Field of Study[2/]	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
Academic	14.69	(4.50	10.19)	5084	24.47	(5.84	18.63)	1797
Nonacademic	27.75	(8.07	19.68)	399	37.06	(6.35	30.71)	854

1/ Proportion of individuals who entered college in the fall of 1972 and withdrew by the fall of 1973.

2/ Academic fields are programs typically leading to at least a Bachelor's degree. They include biological sciences, business, education, engineering, humanities and fine arts, physical sciences and mathematics, social sciences, and other academic fields (e.g., argiculture, home economics).

Nonacademic fields are vocational programs, typically not leading to a Bachelor's degree. They include office and clerical programs, computer technology, mechanical and engineering technology, health services, public services, and other vocational areas.

Table C-9

FRESHMAN WITHDRAWAL RATE (IN PERCENT) BY APTITUDE[1/]

Academic Ability	Four-Year College Withdrawal				Two-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N	Total	(Acad.	Nonacad.)	Sample N
Low	28.29	(7.95)	20.34)	368	36.45	(7.88	28.57)	441
Middle	20.73	(5.59	15.14)	1627	31.38	(5.93	25.45)	1091
High	12.34	(2.98	9.36)	2274	23.67	(4.04	19.63)	517

1/ Proportion of individuals who entered college in the fall of 1972 and withdrew by the fall of 1973.

Table C-10

SOPHOMORE WITHDRAWAL RATE (IN PERCENT) BY FATHER EDUCATION LEVEL[1/]

Father's Education	Four-Year Withdrawal			Sample N
	Total	(Acad.	Nonacad.)	
< High School	17.34	(3.00	14.34)	895
High School	15.57	(1.37	14.20)	1225
Some College	12.66	(2.49	10.17)	1037
Finish Four-Year College	10.07	(1.65	8.42)	837
Graduate Degree	10.21	(2.09	8.12)	826

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

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Table C-11

SOPHOMORE WITHDRAWAL RATE (IN PERCENT) BY RELIGION[1/]

Religion	Four-Year Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
Protestant	12.65	(2.44	10.21)	2119
Catholic	11.79	(1.43	10.26)	1313
Other Christian	20.90	(3.56	17.34)	497
Jewish	3.77	(0.23	3.54)	252
Other	20.05	(0.00	20.05)	89
None	19.50	(2.99	16.61)	267

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

Table C-12

SOPHOMORE WITHDRAWAL RATE (IN PERCENT)
BY PERCENT OF MINORITY MEMBERS IN HIGH SCHOOL WHERE GRADUATED[1/]

Percent Minority	Four-Year Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
< 5%	12.24	(1.49	10.75)	1683
5 - 9%	13.11	(2.23	10.88)	419
10 - 19%	12.13	(1.97	10.16)	514
20 - 39%	13.97	(2.19	11.78)	931
40 - 59%	17.76	(1.69	16.07)	315
60 - 79%	13.27	(1.78	11.49)	153
> 80%	20.91	(4.10	16.81)	233

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

Table C-13

SOPHOMORE WITHDRAWAL RATE (IN PERCENT)
BY REGION OF THE HIGH SCHOOL WHERE GRADUATED[1/]

Region	Four-Year Withdrawal			Sample N
	Total	(Acad.	Nonacad.)	
Northeast	10.75	(2.24	8.52)	1220
North Central	13.18	(1.57	11.61)	1301
South	14.78	(2.26	12.50)	1681
West	16.62	(2.43	14.19)	625

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

Table C-14

SOPHOMORE WITHDRAWAL RATE (IN PERCENT) BY BIRTH ORDER[1/]

Birth Order	Four-Year Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
First Born	11.87	(2.53	9.28)	1345
Second Born	11.01	(1.52	9.49)	1307
Later Born	15.59	(2.47	13.12)	1405

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

Table C-15

SOPHOMORE WITHDRAWAL RATE
(IN PERCENT) BY FULL- OR PART-TIME STUDY (1973)[1/]

Study Time[2/]	Four-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
Full-Time	12.49	(1.93	10.49)	4625
Part-Time	38.49	(2.43	31.06)	119

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

2/ Full-time study status requires 12 or more total credit hours per week.

Table C-16

SOPHOMORE WITHDRAWAL RATE (IN PERCENT)
BY FULL- OR PART-TIME WORK/NOT WORKING (1973)[1/]

Work Time[2/]	Four-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
Full-Time	30.76	(5.20	25.56)	386
Part-Time	12.27	(1.80	10.47)	1583
Not Working	12.21	(1.93	10.28)	2957

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year. (Based on sophomore enrollment.)

2/ Full-time work status requires 35 or more hours of work per week.

Table C-17

SOPHOMORE WITHDRAWAL RATE (IN PERCENT) BY FIELD OF STUDY (1973)[1/]

Field of Study[2/] in 1973	Four-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
Academic	11.83	(1.92	9.91)	4342
Nonacademic	29.62	(3.25	26.37)	287

1/ Proportion of students who persisted in the same institution for one year and then withdrew during or at the end of the second year.

2/ Academic fields are programs typically leading to at least a Bachelor's degree. They include biological sciences, business, education, engineering, humanities and fine arts, physical sciences and mathematics, social sciences, and other academic fields (e.g., argiculture, home economics).

Nonacademic fields are vocational programs, typically not leading to a Bachelor's degree. They include office and clerical programs, computer technology, mechanical and engineering technology, health services, public services, and other vocational areas.

Table C-18

SOPHOMORE WITHDRAWAL RATE (IN PERCENT) BY APTITUDE[1/]

Academic Ability	Four-Year College Withdrawal			
	Total	(Acad.	Nonacad.)	Sample N
Low	28.92	(3.43	25.49)	264
Middle	15.58	(2.37	13.21)	1243
High	9.98	(1.25	8.73)	1950

1/ Proportion of students who persisted in the same type of institution for one year and then withdrew during or at the end of the second year.

Appendix D

Results of Multiple Regression Analysis
on College Withdrawal Behavior

I. Variable Specifications

A. Predictors

1. Socioeconomic Status (SES): a linear composite score derived from the following family background variables: father's education, mother's education, father's occupation, parent's income, and a household item index. A high score indicates high SES.
2. Sex: female = 1; male = 0.
3. Race: white = 1; Hispanic or black = 0.
4. High school grade (HSG): Mostly A = 8; about half A and half B = 7; mostly B = 6; about half B and half C = 5, mostly C = 4; about half C and half D = 3; mostly D = 2; mostly below D = 1.
5. Ability: a linear composite of four standardized test scores: vocabulary, reading, letter group, and mathematics.
6. Educational aspiration: high school or less = 1; some vocational studies beyond high school = 2; two-year college = 3; four-year college or graduate school = 4.
7. High school program: college preparatory program = 1; other programs = 0.
8. Faculty quality: a five-point scale, ranging from 1 (very satisfied) to 5 (very dissatisfied).
9. Social integration: a five-point scale, ranging from 1 (very satisfied) to 5 (very dissatisfied).
10. Intellectual integration: a five-point scale, ranging from 1 (very satisfied) to 5 (very dissatisfied).
11. Financial aid: Receipt of one or more than one aids = 1; no aid at all = 0.

B. Criterion Variables

Four student categories were included in the analysis. They were:

1. Persister: those individuals who remained in the same type of college (i.e., four-year or two-year colleges). In the case of two-year institutions, this group included students who completed a two-year program, but did not continue in a four-year institution.
2. Academic withdrawal: those individuals who withdrew from college as counted in the fall of 1974, and whose reported grade-point average was equal to or below "C," or who indicated either courses being too hard or not performing as well as they would like.
3. Nonacademic withdrawal: withdrawals other than those classified as academic withdrawals.
4. Transfer: those individuals who moved from a four-year to a two-year institution, or vice versa.

In the regression analyses, four binary variables were derived:

1. Academic withdrawals (=1) versus persisters and transfers (=0).
2. Nonacademic withdrawals (=1) versus persisters and transfers (=0).
3. Total withdrawals (=1) versus persisters and transfers (=0).
4. Nonpersisters (=1, i.e., withdrawals and transfers) versus persisters (=0).

II. Analysis Results

Critical data are presented in Tables D-1 to D-10. The first five tables were obtained for four-year college students, and the rest of the tables were for two-year college students. The conceptualization of the withdrawal process as presented in Chapter VI is also applicable here.

Table D-1

WEIGHTED MEANS AND STANDARD DEVIATIONS
(4-YEAR COLLEGES)

Predictor	Persister[1]		Academic Withdrawal		Nonacademic Withdrawal		Transfer[2]	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1. SES	.44	.71	.15	.71	.20	.67	.36	.65
2. Female	.49	.50	.37	.48	.53	.50	.47	.50
3. White	.89	.31	.86	.35	.88	.33	.85	.36
4. High School Grade	6.58	1.15	5.46	1.25	6.10	1.21	6.10	1.16
5. Ability Test Score	57.37	6.06	53.90	6.68	54.14	7.22	55.60	6.22
6. Educational Aspiration	4.63	.57	4.14	1.13	4.15	1.01	4.41	.87
7. Academic H. S. Program	.82	.38	.63	.48	.65	.48	.79	.41
8. Faculty Quality	2.06	.97	2.64	1.13	2.36	1.06	2.33	1.13
9. Social Life	2.25	1.10	2.42	1.17	2.31	1.09	2.15	1.03
10. Intellectual Integration	2.07	1.59	2.64	1.92	2.16	1.60	2.25	1.78
11. Financial Aid	.39	.49	.32	.47	.29	.46	.28	.45
N	3024		195		716		140	

[1] Including students who moved to other four-year institutions.

[2] Students who transferred to two-year institutions.

Table D-2

CORRELATIONS BETWEEN PREDICTORS AND CRITERION VARIABLES
(4-YEAR COLLEGE STUDENTS)

Predictor	Criterion Variable			
	Academic Withdrawal vs. Persister + Transfer	Nonacademic Withdrawal vs. Persister + Transfer	Total Withdrawal vs. Persister + Transfer	Withdrawal + Transfer vs. Persister
1. SES	-.09**	-.13**	-.14**	-.14**
2. Female (vs. Male)	-.05**	.04	.01	.01
3. White (vs. Nonwhite)	-.02	-.01	-.02	-.03
4. High School Grade	-.22**	-.15**	-.21**	-.22**
5. Ability Test Score	-.13**	-.19**	-.20**	-.21**
6. Educational Aspiration	-.18**	-.26**	-.27**	-.27**
7. Academic H. S. Program (vs. General & Voc-Tech Program)	-.11**	-.16**	-.17**	-.16**
8. Faculty Quality	.13**	.11**	.14**	.15**
9. Social Life	.04	.02	.03	.02
10. Intellectual Integration	.16**	.04	.10**	.11**
11. Receipt of Financial Aid	-.03	-.07**	-.07**	-.08**
Multiple R	.31	.33	.37	.37
d.f.	(11, 3347)	(11, 3868)	(11, 4063)	(11, 4063)
F	32.93**	42.49**	57.09**	58.01**

**Significant at the .01 level (a two-tailed test for r's)

Table D-3

STANDARDIZED REGRESSION WEIGHTS
(4-YEAR COLLEGE STUDENTS)

Predictor	Criterion Variable			
	Academic Withdrawal vs. Persister + Transfer	Nonacademic Withdrawal vs. Persister + Transfer	Total Withdrawal vs. Persister + Transfer	Withdrawal + Transfer vs. Persister
1. SES	-.07**	-.09**	-.11**	-.10**
2. Female (vs. Male)	-.02	.04	.02	.02
3. White (vs. Nonwhite)	.04	.07**	.07**	.06**
4. High School Grade	-.16**	-.05**	-.10**	-.12**
5. Ability Test Score	.01	-.08**	-.06**	-.06**
6. Educational Aspiration	-.13**	-.19**	-.19**	-.19**
7. Academic H. S. Program (vs. General & Voc-Tech Program)	-.05**	-.06**	-.07**	-.06**
8. Faculty Quality	.07**	.07**	.09**	.09**
9. Social Life	.01	.03	.03	.01
10. Intellectual Integration	.[illegible]	.01	.05**	.06**
11. Receipt of Financial Aid	.01	-.05**	-.04**	-.05**

**Significant at the .01 level

Table D-4

ADDITIONAL PERCENTAGE OF VARIANCE IN WITHDRAWAL BEHAVIOR ACCOUNTED FOR BY CLUSTER OF PREDICTORS (4-YEAR COLLEGE)

Predictor	Withdrawal Behavior			
	Academic	Nonacademic	Total Withdrawal	Nonpersister
1. SES, Sex, Race	1.20%**	1.79%	2.11%**	1.94%**
2. High School Grade, Test Score	4.35 **	3.66 **	5.21 **	5.54 **
3. Educational Aspiration	1.73 **	4.01 **	3.96 **	3.90 **
4. High School Program	.26 **	.37 **	.46 **	.33 **
5. College Experience	2.22 **	.71 **	1.50 **	1.64 **
6. Financial Aid	.01	.24 **	.15 **	.22 **
Total (R^2 x 100)	9.77%**	10.78%**	13.39%**	13.57%**

NOTE: The contribution of predictors was done in a sequential order; that is, the variance accounted for by financial aid, for example, was computed after the preceding five sets of variables were considered.

** Significant at the .01 level.

Table D-5

INTERCORRELATIONS AMONG PREDICTORS
(4-YEAR COLLEGE)
N = 4075

Predictor	1	2	3	4	5	6	7	8	9	10	11
1. SES	1.00										
2. Female (vs. Male)	-.04	1.00									
3. White (vs. Nonwhite)	.30	-.05	1.00								
4. High School Grade	.10	.18	.17	1.00							
5. Ability Test Score	.33	.00	.40	.50	1.00						
6. Educational Aspiration	.13	-.04	.03	.22	.28	1.00					
7. Academic H. S. Program	.16	-.04	.11	.19	.31	.24	1.00				
8. Faculty Quality	-.02	.00	-.03	-.11	-.07	-.07	-.04	1.00			
9. Social Life	-.01	-.05	-.01	.02	.07	.03	.06	.18	1.00		
10. Intellectual Integration	.01	-.05	-.01	-.11	.00	-.02	.00	.30	.23	1.00	
11. Financial Aid	-.27	.06	-.10	.18	.07	.10	.04	-.08	.03	-.06	1.00

NOTE: r > .04 is significant at the .01 level (a two-tailed test).

Table D-6

WEIGHTED MEANS AND STANDARD DEVIATIONS
(2-YEAR COLLEGES)

Predictor	Persister[1]		Academic Withdrawal		Nonacademic Withdrawal		Transfer[2]	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1. SES	.09	.63	.04	.56	.06	.64	.29	.63
2. Female	.48	.50	.35	.48	.49	.50	.45	.50
3. White	.86	.35	.78	.41	.84	.37	.92	.27
4. High School Grade	5.59	1.19	4.76	1.05	5.39	1.22	6.00	1.28
5. Ability Test Score	51.96	6.58	49.43	6.90	50.68	7.00	53.96	6.31
6. Educational Aspiration	3.79	1.00	3.25	1.32	3.56	1.14	4.34	.74
7. Academic H. S. Program	.52	.50	.33	.47	.40	.49	.65	.48
8. Faculty Quality	2.00	.98	2.54	1.05	2.27	1.03	1.88	.85
9. Social Life	2.26	1.00	2.25	.89	2.28	1.02	2.33	1.07
10. Intellectual Integration	1.97	1.47	2.52	1.67	2.13	1.75	1.98	1.45
11. Financial Aid	.23	.42	.20	.40	.17	.38	.28	.45
N	712		124		614		487	

1/ Including students who moved to other two-year institutions, and students who graduated but did not continue in four-year institutions.

2/ Students who moved to four-year institutions.

Table D-7

CORRELATION BETWEEN PREDICTORS AND CRITERION VARIABLES
(2-YEAR COLLEGE STUDENTS)

Predictor	Criterion Variable			
	Academic Withdrawal vs. Persister + Transfer	Nonacademic Withdrawal vs. Persister + Transfer	Total Withdrawal vs. Persister + Transfer	Withdrawal + Transfer vs. Persister
1. SES	-.06	-.08**	-.08**	.05
2. Female (vs. Male)	-.07	.03	.00	-.02
3. White (vs. Nonwhite)	-.09**	-.07**	-.08**	-.02
4. High School Grade	-.23**	-.14**	-.18**	-.01
5. Ability Test Score	-.15**	-.15**	-.16**	-.01
6. Educational Aspiration	-.22**	-.21**	-.23**	.02
7. Academic H. S. Program (vs. General & Voc-Tech Program)	-.14**	-.16**	-.18**	-.03
8. Faculty Quality	.18**	.15**	.18**	.07**
9. Social Life	-.01	.00	-.01	.02
10. Intellectual Integration	.21**	.10**	.14**	.08**
11. Receipt of Financial Aid	-.03	-.09**	-.09**	-.02
Multiple R	.37	.31	.36	.12
d.f.	(11, 1311)	(11, 1801)	(11, 1925)	(11, 1925)
F	19.40**	17.76**	25.36**	2.40**

**Significant at the .01 level (a two-tailed test for r's)

Table D-8

STANDARDIZED REGRESSION WEIGHTS
(2-YEAR COLLEGE STUDENTS)

Predictor	Criterion Variable			
	Academic Withdrawal vs. Persister + Transfer	Nonacademic Withdrawal vs. Persister + Transfer	Total Withdrawal vs. Persister + Transfer	Withdrawal + Transfer vs. Persister
1. SES	-.03	-.05	-.05	.05
2. Female (vs. Male)	-.02	.03	.02	-.01
3. White (vs. Nonwhite)	-.05	-.02	-.02	.00
4. High School Grade	-.15**	-.07**	-.10**	.02
5. Ability Test Score	.02	-.02	-.02	-.02
6. Educational Aspiration	-.16**	-.16**	-.17**	.02
7. Academic H. S. Program (vs. General & Voc-Tech Program)	-.06	-.09**	-.09**	-.03
8. Faculty Quality	.10**	.12**	.13**	.05
9. Social Life	-.09**	-.05	-.06**	-.02
10. Intellectual Integration	.17**	.07**	.11**	.07**
11. Receipt of Financial Aid	-.01	-.07**	-.06**	.00

**Significant at the .01 level

Table D-9

ADDITIONAL PERCENTAGE OF VARIANCE IN WITHDRAWAL BEHAVIOR ACCOUNTED FOR BY CLUSTER OF PREDICTORS (2-YEAR COLLEGE)

Predictor	Withdrawal Behavior			
	Academic	Nonacademic	Total Withdrawal	Nonpersister
1. SES, Sex, Race	1.49%**	.87%**	1.05%**	.27%
2. High School Grade, Test Score	4.53 **	2.56 **	3.75 **	.03
3. Educational Aspiration	3.08 **	2.78 **	3.38 **	.02
4. High School Program	.45	.80 **	.88 **	.12
5. College Experience	4.43 **	2.28 **	3.24 **	.90 **
6. Financial Aid	.00	.49 **	.35 **	.00
Total (R^2 x 100)	14.00%**	9.78%**	12.66%**	1.35%**

NOTE: The contribution of predictors was done in a sequential order; that is, the variance accounted for by financial aid, for example, was computed after the preceding variables were considered.

**Significant at the .01 level.

Table D-10

INTERCORRELATIONS AMONG PREDICTORS
(2-YEAR COLLEGE)
N = 1937

Predictor	1	2	3	4	5	6	7	8	9	10	11
1. SES	1.00										
2. Female (vs. Male)	-.03	1.00									
3. White (vs. Nonwhite)	.31	.01	1.00								
4. High School Grade	-.01	.26	.12	1.00							
5. Ability Test Score	.22	.02	.35	.42	1.00						
6. Educational Aspiration	.14	-.12	.06	.13	.24	1.00					
7. Academic H. S. Program	.14	-.02	.13	.17	.33	.23	1.00				
8. Faculty Quality	-.01	-.05	-.02	-.12	-.06	-.06	-.05	1.00			
9. Social Life	.00	-.04	.01	-.01	.08	.03	.00	.22	1.00		
10. Intellectual Integration	.04	-.12	.00	-.12	.02	.03	-.03	.31	.31	1.00	
11. Financial Aid	-.20	.02	-.04	.15	.05	.05	.07	-.03	-.02	-.03	1.00

NOTE: r > .06 is significant at the .01 level (a two-tailed test).

Appendix E

Weighted Contingency Data

Table E-1

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), SEX, AND RACE
(4-YEAR COLLEGE)

SES	Sex	Race	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	Male	Black	68.22	2.33	5.43	24.03	129
		Hispanic	66.10	3.39	6.78	23.73	59
		White	67.38	1.29	11.59	19.74	233
Low	Female	Black	64.00	1.78	9.33	24.89	225
		Hispanic	63.64	18.18	2.27	15.91	44
		White	60.29	3.43	5.39	30.88	204
Middle	Male	Black	67.19	6.25	6.25	20.31	128
		Hispanic	68.18	9.09	0.00	22.73	22
		White	68.65	3.84	7.25	20.26	1145
Middle	Female	Black	72.78	5.56	4.44	17.22	180
		Hispanic	76.19	4.76	9.52	9.52	21
		White	69.44	2.67	4.20	23.69	1047
High	Male	Black	77.14	2.86	5.71	14.29	35
		Hispanic	85.71	0.00	0.00	14.29	7
		White	79.03	3.67	4.54	12.75	1388
High	Female	Black	77.08	2.08	4.17	16.67	48
		Hispanic	55.56	22.22	0.00	22.22	9
		White	79.06	2.55	3.61	14.78	1218

Table E-2

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), SEX, AND RACE
(2-YEAR COLLEGE)

SES	Sex	Race	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	Male	Black	25.64	19.23	5.13	50.00	78
		Hispanic	42.62	6.56	6.56	44.26	61
		White	41.55	16.90	7.04	34.51	142
Low	Female	Black	38.02	13.22	6.61	42.15	121
		Hispanic	50.98	3.92	7.84	37.25	51
		White	37.57	15.03	6.36	41.04	173
Middle	Male	Black	34.62	5.77	9.62	50.00	52
		Hispanic	35.14	10.81	24.32	29.73	37
		White	36.77	21.12	6.83	35.28	805
Middle	Female	Black	40.74	22.22	8.64	28.40	81
		Hispanic	57.50	2.50	2.50	37.50	40
		White	42.38	21.19	4.93	31.49	689
High	Male	Black	41.67	33.33	0.00	25.00	12
		Hispanic	63.64	18.18	9.09	9.09	11
		White	38.41	29.58	5.30	26.71	453
High	Female	Black	46.15	15.38	0.00	38.46	13
		Hispanic	28.57	28.57	0.00	42.86	7
		White	34.22	29.68	2.67	33.42	374

Table E-3

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), HIGH SCHOOL GRADE (HSG), AND EDUCATIONAL ASPIRATION (ASP) (4-YEAR COLLEGE)

SES	HSG	ASP	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	High	Low	28.85	3.85	13.46	53.85	52
		Middle	21.88	3.13	12.50	62.50	32
		High	71.98	3.05	5.55	19.42	721
Low	Low	Low	0.00	0.00	37.50	62.50	8
		Middle	75.00	0.00	0.00	25.00	4
		High	45.33	5.33	29.33	20.00	75
Middle	High	Low	14.13	4.35	19.57	61.96	92
		Middle	39.34	8.20	13.11	39.34	61
		High	74.31	3.68	4.07	17.94	2090
Middle	Low	Low	14.29	4.76	33.33	47.62	21
		Middle	22.22	0.00	33.33	44.44	9
		High	57.14	6.35	11.90	24.60	126
High	High	Low	31.37	9.80	9.80	49.02	51
		Middle	14.29	8.57	17.14	60.00	35
		High	82.36	2.70	2.95	11.98	2370
High	Low	Low	25.00	12.50	12.50	50.00	8
		Middle	14.29	14.29	57.14	14.29	7
		High	61.02	7.63	13.56	17.80	118

Table E-4

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), HIGH SCHOOL GRADE (HSG), AND EDUCATIONAL ASPIRATION (ASP) (2-YEAR COLLEGE)

SES	HSG	ASP	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	High	Low	27.37	6.32	11.58	54.24	95
		Middle	58.97	1.28	6.41	33.33	78
		High	41.30	20.50	5.28	32.92	322
Low	Low	Low	18.18	3.03	15.15	63.64	33
		Middle	33.33	0.00	0.00	66.67	24
		High	36.62	21.13	8.45	33.80	71
Middle	High	Low	32.08	2.83	12.74	52.36	212
		Middle	51.27	6.78	6.36	35.59	236
		High	39.09	31.39	3.38	26.14	857
Middle	Low	Low	15.07	4.11	24.66	56.16	73
		Middle	39.68	7.94	12.70	39.68	63
		High	37.99	18.44	9.50	34.08	179
High	High	Low	35.48	8.06	6.45	50.00	62
		Middle	49.48	13.40	2.06	35.05	97
		High	35.34	37.97	2.07	24.62	532
High	Low	Low	60.00	5.00	5.00	30.00	20
		Middle	33.33	6.67	6.67	53.33	15
		High	39.81	20.37	10.19	29.63	108

Table E-5

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), HIGH SCHOOL GRADE (HSG), AND ABILITY TEST SCORES (ABILITY) (4-YEAR COLLEGE)

SES	HSG	ABILITY	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	High	Low	59.33	3.33	9.33	28.00	150
		Middle	64.75	2.52	6.11	26.62	278
		High	75.27	2.69	4.84	17.20	186
Low	Low	Low	42.50	7.50	17.50	32.50	40
		Middle	42.86	0.00	33.33	23.81	21
		High	33.33	0.00	33.33	33.33	3
Middle	High	Low	53.17	0.79	8.73	37.30	126
		Middle	65.25	4.91	5.57	24.27	754
		High	78.12	2.82	3.65	15.41	850
Middle	Low	Low	38.89	8.33	13.89	38.89	36
		Middle	50.91	3.64	18.18	27.27	55
		High	58.82	0.00	14.71	26.47	34
High	High	Low	63.89	8.33	2.78	25.00	36
		Middle	74.53	3.96	3.79	17.73	581
		High	80.07	2.64	2.25	11.03	1287
High	Low	Low	54.55	9.09	9.09	27.27	22
		Middle	61.54	5.77	9.62	23.08	52
		High	51.72	10.34	17.24	20.69	29

Table E-6

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES), HIGH SCHOOL GRADE (HSG), AND ABILITY TEST SCORES (ABILITY) (2-YEAR COLLEGE)

SES	HSG	ABILITY	Percentage				N
			Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	High	Low	38.81	10.45	5.97	44.78	134
		Middle	48.28	10.34	7.59	33.79	145
		High	48.44	20.31	3.13	28.13	64
Low	Low	Low	26.76	9.86	7.04	56.34	71
		Middle	46.88	9.38	6.25	37.50	32
		High	50.00	0.00	0.00	50.00	2
Middle	High	Low	39.62	9.43	6.92	44.03	159
		Middle	44.39	19.69	5.70	30.22	579
		High	33.79	33.79	3.45	28.97	290
Middle	Low	Low	26.74	8.14	15.12	50.00	86
		Middle	34.85	17.42	11.36	36.36	132
		High	42.86	4.76	14.29	38.10	21
High	High	Low	36.67	23.33	3.33	36.67	60
		Middle	38.55	26.55	1.82	33.09	275
		High	34.00	40.50	2.00	23.50	200
High	Low	Low	52.17	26.09	8.70	13.04	23
		Middle	31.17	20.78	10.39	37.66	77
		High	40.00	13.33	20.00	26.67	15

Table E-7

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES) AND HIGH SCHOOL PROGRAM (HSP)
(4-YEAR COLLEGE)

SES	HSP	Percentage				N
		Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	Noncollege	53.54	2.53	11.87	32.07	396
	College	70.96	3.45	5.99	19.60	551
Middle	Noncollege	58.57	3.23	7.30	30.90	712
	College	72.99	3.97	5.21	17.84	1940
High	Noncollege	66.42	4.77	6.79	22.02	545
	College	81.94	2.85	3.35	11.86	2242

Table E-8

CONTINGENCY DATA BY SOCIOECONOMIC STATUS (SES) AND HIGH SCHOOL PROGRAM (HSP)
(2-YEAR COLLEGE)

SES	HSP	Percentage				N
		Persister	Transfer	Academic Withdrawal	Nonacademic Withdrawal	
Low	Noncollege	37.53	9.33	7.59	45.55	461
	College	42.86	23.50	5.07	28.57	217
Middle	Noncollege	38.45	13.65	9.04	38.86	996
	College	40.59	28.04	4.06	27.31	813
High	Noncollege	38.42	23.16	6.11	32.32	393
	College	37.48	33.93	2.17	26.43	507

Table E-9

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND FACULTY QUALITY (FACQ)
(4-YEAR COLLEGE)

SES	ASP	FACQ	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	13.64	25.00	13.64	47.73	44
		Dissatisfied	12.50	25.00	0.00	62.50	8
Low	2-yr coll	Satisfied	31.58	31.58	10.53	26.32	19
		Dissatisfied	0.00	50.00	25.00	25.00	8
Low	4-yr coll	Satisfied	54.36	32.94	5.32	7.39	677
		Dissatisfied	43.62	34.04	9.57	12.77	94
Middle	<coll	Satisfied	6.98	22.09	27.91	43.02	86
		Dissatisfied	0.00	29.63	22.22	48.15	27
Middle	2-yr coll	Satisfied	22.73	39.39	15.15	22.73	66
		Dissatisfied	23.08	38.46	7.69	30.77	13
Middle	4-yr coll	Satisfied	57.51	32.89	2.18	7.41	1970
		Dissatisfied	47.13	35.67	7.01	10.19	314
High	<coll	Satisfied	16.33	34.69	14.29	34.69	49
		Dissatisfied	7.69	38.46	7.69	46.15	13
High	2-yr coll	Satisfied	9.38	65.63	15.63	9.38	32
		Dissatisfied	0.00	63.64	18.18	18.18	11
High	4-yr coll	Satisfied	63.13	31.43	1.44	4.00	2224
		Dissatisfied	51.87	37.70	3.74	6.68	374

Table E-10

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND FACULTY QUALITY (FACQ)
(2-YEAR COLLEGE)

SES	ASP	FACQ	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	22.32	30.36	8.93	38.39	112
		Dissatisfied	0.00	12.50	25.00	62.50	8
Low	2-yr coll	Satisfied	42.35	27.06	2.35	28.24	85
		Dissatisfied	20.00	60.00	0.00	20.00	10
Low	4-yr coll	Satisfied	49.15	31.92	3.39	15.54	354
		Dissatisfied	28.21	41.03	2.56	28.21	39
Middle	<coll	Satisfied	22.75	25.75	13.73	37.77	233
		Dissatisfied	19.51	17.07	21.95	41.46	41
Middle	2-yr coll	Satisfied	48.21	21.51	5.98	24.30	251
		Dissatisfied	23.68	34.21	15.79	26.32	38
Middle	4-yr coll	Satisfied	55.23	28.98	2.95	12.84	880
		Dissatisfied	46.09	28.70	6.09	19.13	115
High	<coll	Satisfied	28.13	32.81	4.69	34.38	64
		Dissatisfied	18.18	54.55	9.09	18.18	11
High	2-yr coll	Satisfied	50.00	26.42	1.89	21.70	106
		Dissatisfied	26.67	33.33	13.33	26.67	15
High	4-yr coll	Satisfied	52.25	34.77	1.98	10.99	555
		Dissatisfied	25.35	45.07	5.63	23.94	71

Table E-11

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND SOCIAL INTEGRATION (SOCL)
(4-YEAR COLLEGE)

SES	ASP	SOCL	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	13.33	26.67	8.89	51.11	45
		Dissatisfied	12.50	12.50	25.00	50.00	8
Low	2-yr coll	Satisfied	25.00	33.33	12.50	29.17	24
		Dissatisfied	0.00	66.67	33.33	0.00	3
Low	4-yr coll	Satisfied	53.86	33.86	4.72	7.56	635
		Dissatisfied	49.25	30.60	10.45	9.70	134
Middle	<coll	Satisfied	6.32	21.05	26.32	46.32	95
		Dissatisfied	0.00	35.29	29.41	35.29	17
Middle	2-yr coll	Satisfied	23.61	40.28	13.89	22.22	72
		Dissatisfied	12.50	37.50	12.50	37.50	8
Middle	4-yr coll	Satisfied	56.68	32.79	2.76	7.77	1955
		Dissatisfied	52.27	36.25	3.63	7.86	331
High	<coll	Satisfied	16.67	37.04	11.11	35.19	54
		Dissatisfied	0.00	28.57	14.29	57.14	7
High	2-yr coll	Satisfied	7.89	68.42	13.16	10.53	38
		Dissatisfied	0.00	50.00	33.33	16.67	6
High	4-yr coll	Satisfied	62.58	31.57	1.44	4.42	2151
		Dissatisfied	56.28	36.10	3.36	4.26	446

Table E-12

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND SOCIAL INTEGRATION (SOCL)
(2-YEAR COLLEGE)

SES	ASP	SOCL	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	20.35	29.20	9.73	40.71	113
		Dissatisfied	14.29	28.57	28.57	28.57	7
Low	2-yr coll	Satisfied	42.86	25.00	2.38	29.76	84
		Dissatisfied	22.22	66.67	0.00	11.11	9
Low	4-yr coll	Satisfied	48.79	30.61	3.33	17.27	330
		Dissatisfied	38.71	43.55	3.23	14.52	62
Middle	<coll	Satisfied	20.66	23.97	16.53	38.84	242
		Dissatisfied	33.33	27.27	3.03	36.36	33
Middle	2-yr coll	Satisfied	43.08	23.08	7.31	26.54	260
		Dissatisfied	60.00	23.33	6.07	10.00	30
Middle	4-yr coll	Satisfied	53.64	29.11	3.29	13.97	852
		Dissatisfied	57.34	27.97	3.50	11.19	143
High	<coll	Satisfied	32.26	37.10	3.23	27.42	62
		Dissatisfied	15.38	30.77	7.69	46.15	13
High	2-yr coll	Satisfied	49.53	24.30	3.74	22.43	107
		Dissatisfied	28.57	42.86	0.00	28.57	14
High	4-yr coll	Satisfied	50.19	35.45	1.87	12.50	536
		Dissatisfied	44.57	36.96	5.43	13.04	92

Table E-13

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND INTELLECTUAL INTEGRATION (INTEL)
(4-YEAR COLLEGE)

SES	ASP	INTEL	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	7.89	26.32	10.53	55.26	38
		Dissatisfied	50.00	12.50	12.50	25.00	8
Low	2-yr coll	Satisfied	24.00	32.00	16.00	28.00	25
		Dissatisfied	0.00	100.00	0.00	0.00	2
Low	4-yr coll	Satisfied	53.86	32.79	5.34	8.01	674
		Dissatisfied	46.88	34.38	10.94	7.81	64
Middle	<coll	Satisfied	6.06	23.23	24.24	46.46	99
		Dissatisfied	0.00	28.57	42.86	28.57	14
Middle	2-yr coll	Satisfied	22.97	39.19	13.51	24.32	74
		Dissatisfied	0.00	60.00	20.00	20.00	5
Middle	4-yr coll	Satisfied	57.71	32.94	2.29	7.06	2010
		Dissatisfied	41.71	37.44	9.00	11.85	211
High	<coll	Satisfied	15.25	33.90	13.56	37.29	59
		Dissatisfied	0.00	50.00	0.00	50.00	4
High	2-yr coll	Satisfied	7.50	67.50	15.00	10.00	40
		Dissatisfied	0.00	0.00	100.00	0.00	2
High	4-yr coll	Satisfied	62.78	31.76	1.44	4.02	2289
		Dissatisfied	50.20	38.37	5.31	6.12	134

Table E-14

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND INTELLECTUAL INTEGRATION (INTEL)
(2-YEAR COLLEGE)

SES	ASP	INTEL	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	Satisfied	23.36	24.30	12.15	40.19	107
		Dissatisfied	0.00	66.67	0.00	33.33	6
Low	2-yr coll	Satisfied	41.67	29.76	1.19	27.38	84
		Dissatisfied	11.11	22.22	22.22	44.44	9
Low	4-yr coll	Satisfied	48.84	31.98	3.20	15.99	344
		Dissatisfied	37.14	45.71	5.71	11.43	35
Middle	<coll	Satisfied	23.24	24.48	13.69	38.59	241
		Dissatisfied	16.67	25.00	33.33	25.00	24
Middle	2-yr coll	Satisfied	46.67	22.96	5.93	24.44	270
		Dissatisfied	6.67	33.33	40.00	20.00	15
Middle	4-yr coll	Satisfied	55.68	28.06	2.67	13.59	898
		Dissatisfied	35.21	39.44	9.86	15.49	71
High	<coll	Satisfied	28.57	31.75	3.17	36.51	63
		Dissatisfied	18.18	54.55	18.18	9.09	11
High	2-yr coll	Satisfied	50.00	25.96	3.85	20.19	104
		Dissatisfied	31.25	31.25	6.25	31.25	16
High	4-yr coll	Satisfied	51.24	35.51	2.12	11.13	566
		Dissatisfied	26.09	39.13	6.52	28.26	46

Table E-15

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND FINANCIAL AID STATUS (FAID)
(4-YEAR COLLEGE)

SES	ASP	FAID	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	No	21.21	12.12	9.09	57.58	33
		Yes	4.76	42.86	14.29	38.10	21
Low	2-yr coll	No	36.36	27.27	18.18	18.18	11
		Yes	11.76	47.06	11.76	29.41	17
Low	4-yr coll	No	43.60	35.64	6.92	13.84	289
		Yes	58.96	31.46	5.00	4.58	480
Middle	<coll	No	7.06	22.35	23.53	47.06	85
		Yes	0.00	28.57	32.14	39.29	28
Middle	2-yr coll	No	17.24	44.83	12.07	25.86	58
		Yes	33.33	25.00	20.83	20.83	24
Middle	4-yr coll	No	51.31	35.71	3.30	9.68	1302
		Yes	62.42	30.04	2.24	5.30	982
High	<coll	No	16.67	33.33	14.81	35.19	54
		Yes	0.00	44.44	0.00	55.56	9
High	2-yr coll	No	2.70	64.86	18.92	13.51	37
		Yes	37.50	50.00	0.00	12.50	8
High	4-yr coll	No	59.85	33.70	1.92	4.52	1923
		Yes	65.68	28.70	1.48	4.14	676

Table E-16

CONTINGENCY DATA BY SES, ASPIRATION (ASP), AND FINANCIAL AID STATUS (FAID)
(2-YEAR COLLEGE)

SES	ASP	FAID	Percentage				N
			Persister	Other	Academic Withdrawal	Nonacademic Withdrawal	
Low	<coll	No	12.64	31.03	13.79	42.53	87
		Yes	42.42	21.21	3.03	33.33	33
Low	2-yr coll	No	38.33	33.33	1.67	26.67	60
		Yes	42.86	22.86	5.71	28.57	35
Low	4-yr coll	No	46.15	31.98	4.05	17.81	247
		Yes	48.63	34.25	2.05	15.07	146
Middle	<coll	No	20.92	25.94	14.64	38.49	239
		Yes	31.58	15.79	15.79	36.84	38
Middle	2-yr coll	No	41.41	26.43	7.93	24.23	227
		Yes	57.14	12.70	4.76	25.40	63
Middle	4-yr coll	No	51.94	29.09	4.02	14.96	722
		Yes	60.44	28.21	1.47	9.89	273
High	<coll	No	23.08	35.38	6.15	35.38	65
		Yes	50.00	40.00	0.00	10.00	10
High	2-yr coll	No	44.34	28.30	5.66	21.70	106
		Yes	52.94	17.65	0.00	29.41	17
High	4-yr coll	No	48.78	35.65	2.06	13.51	533
		Yes	53.76	37.63	3.23	5.38	93

Appendix F

Psychological Constructs
and Group Means and Standard Deviations

Table F-1

FACTOR LOADINGS FOR SELF-ESTEEM AND LOCUS OF CONTROL ITEMS

Item	Self-Esteem Factor I	Locus of Control Factor II
SELF-ESTEEM		
Positive attitude	.73	-.09
Equal worth	.72	-.13
Able to do as well as most people	.69	-.05
Satisfied	.65	.08
LOCUS OF CONTROL		
Luck more important than work	.08	.60
Try to get ahead, but stopped	-.22	.65
Plans hardly work out	-.14	.73
Accept condition	.04	.62

Note: The internal consistencies (coefficient alphas) are .66 and .50, respectively, for self-esteem and locus of control.

Table F-2

FACTOR STRUCTURE OF LIFE GOAL ITEMS

Item	Orientation Factors		
	Work	Community	Family
WORK SCALE			
Success in work	.62	.13	.13
Having lots of money	.73	.04	-.09
Finding steady work	.69	.12	.19
COMMUNITY SCALE			
Being a leader	.31	.60	.03
Giving children opportunities	.34	.43	.33
Working to correct inequalities	-.22	.81	-.09
FAMILY SCALE			
Marriage and family	.23	.15	.55
Living close to parents and relatives	.08	.25	.53
Getting sway	.12	.26	-.74
ITEM NOT APPEARING IN ANY SCALE			
Having strong friendships	.10	.34	.22

Note: (1) The response to each item ranged from not important to very important on a three-point scale.

(2) The coefficient alphas (internal consistencies) were .53, .44, and .30 for the work, community, and family scales, respectively.

Table F-3

MEANS AND STANDARD DEVIATIONS OF THE MEASURES OF SELF-ESTEEM[1/]

Student Group	Self-Esteem (1972)		Self-Esteem (1973)		Self-Esteem (1974)		Sample N
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
Four-Year College							
Persisters	4.02	0.63	4.23	0.64	4.29	0.67	2480
Academic Withdrawal	3.90	0.65	4.04	0.62	4.17	0.69	143
Nonacademic Withdrawal	3.98	0.64	4.30	0.70	4.42	0.70	359
Two-Year College							
Completed a 2-year degree	3.94	0.62	4.16	0.55	4.33	0.62	241
Academic Withdrawal	3.75	0.78	4.03	0.60	4.22	0.67	103
Nonacademic Withdrawal	3.94	0.63	4.25	0.65	4.34	0.67	433

1/ The higher scale score indicates higher self-esteem.

Table F-4

MEANS AND STANDARD DEVIATIONS OF THE MEASURES OF LOCUS OF CONTROL[1/]

Student Group	Locus of Control (1972)		Locus of Control (1973)		Locus of Control (1974)		Sample N
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
Four-Year College							
Persisters	4.04	0.63	3.93	0.89	3.95	0.90	2479
Academic Withdrawal	3.74	0.61	3.82	0.64	3.64	0.96	143
Nonacademic Withdrawal	3.88	0.85	3.70	1.22	3.60	1.26	358
Two-Year College							
Completed a 2-year degree	3.91	0.65	3.97	0.71	3.80	1.03	242
Academic Withdrawal	3.72	0.72	3.69	0.65	3.60	0.96	103
Nonacademic Withdrawal	3.73	0.70	3.64	1.09	3.68	1.08	432

1/ The higher score indicates more internal in locus of control.

Table F-5

MEANS AND STANDARD DEVIATIONS OF THE MEASURES OF WORK ORIENTATION

Student Group	Work Orientation (1972)		Work Orientation (1973)		Work Orientation (1974)		Sample N
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
Four-Year College							
Persisters	2.48	0.40	2.35	0.55	2.30	0.58	2478
Academic Withdrawal	2.50	0.38	2.38	0.4[illegible]	2.30	0.63	143
Nonacademic Withdrawal	2.50	0.37	2.20	0.75	2.13	0.78	361
Two-Year College							
Completed a 2-year degree	2.51	0.36	2.41	0.45	2.31	0.62	241
Academic Withdrawal	2.58	0.40	2.50	0.38	2.28	0.63	104
Nonacademic Withdrawal	2.52	0.37	2.28	0.67	2.29	0.65	432

Table F-6

MEANS AND STANDARD DEVIATIONS OF THE MEASURES OF COMMUNITY ORIENTATION

Student Group	Community Orientation (1972)		Community Orientation (1973)		Community Orientation (1974)		Sample N
	Mean	Standard -Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
Four-Year College							
Persisters	2.10	0.49	1.92	0.57	1.88	0.59	2477
Academic Withdrawal	2.06	0.47	1.95	0.44	1.88	0.57	143
Nonacademic Withdrawal	2.17	0.50	1.87	0.70	1.85	0.71	360
Two-Year College							
Completed a 2-year degree	2.08	0.47	1.97	0.51	1.87	0.58	241
Academic Withdrawal	2.11	0.45	1.92	0.55	1.80	0.61	104
Nonacademic Withdrawal	2.11	0.46	1.88	0.63	1.86	0.61	432

Table F-7

MEANS AND STANDARD DEVIATIONS OF THE MEASURES OF FAMILY ORIENTATION

Student Group	Family Orientation (1972)		Family Orientation (1973)		Family Orientation (1974)		Sample N
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
Four-Year College							
Persisters	2.28	0.40	2.31	0.41	2.30	0.43	2477
Academic Withdrawal	2.13	0.42	2.29	0.36	2.27	0.39	143
Nonacademic Withdrawal	2.22	0.42	2.29	0.47	2.29	0.47	360
Two-Year College							
Completed a 2-year degree	2.35	0.37	2.35	0.38	2.38	0.41	242
Academic Withdrawal	2.22	0.42	2.29	0.47	2.29	0.42	104
Nonacademic Withdrawal	2.29	0.48	2.32	0.46	2.35	0.43	432

* U. S. GOVERNMENT PRINTING OFFICE : 1977 241-055/3079